The Skin

Its Care and Treatment



Class RL87
Book M3
Copyright No. 1907

COPYRIGHT DEPOSIT.



THE SKIN

Its Care and Treatment

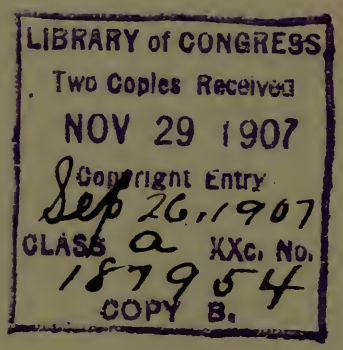
BY

EMILY LLOYD

Teaching every detail of this
important work, in a simple,
concise and practical
manner

THIRD EDITION
Re-written and Greatly Enlarged

McIntosh Battery & Optical Company
CHICAGO


LIBRARY of CONGRESS
Two Copies Received
NOV 29 1907
Copyright Entry
Sep 26, 1907
CLASS a XXc. No.
179954
COPY B.

RL87
.M3
1907

COPYRIGHT, 1907

McINTOSH BATTERY & OPTICAL CO.

DEDICATION.

Since the last revision of this book—three years ago—the demand for information on these subjects has increased so tremendously, that in addition to revising all the old matter, many new chapters have been added, and a remarkably large number of illustrations have been prepared with the view of making every step of this work as plain and as practical as possible.

To the earnest, honest, ambitious women who are constantly looking for information in the hope that they may be of benefit to their fellow beings, this book is dedicated with the hope that their satisfaction in learning of the practical procedures may be as great as the gratification of the writer in knowing that throughout the country there is a concerted effort to raise this work to the highest standard.

INTRODUCTION.

"The force, the mass of character, mind, heart or soul that a man can put into any work is the most important factor in that work."

In the last five years such wonderful strides have been made in the work of retarding the appearance of age, that today every intelligent woman unhesitatingly acknowledges her interest in learning of any really practical process that will enable her to look as young as she feels.

From a business standpoint a well preserved appearance is necessary. All people can not appear to be youthful, nor would such a procedure be advisable, but at any time the desire not to look much beyond middle life is one that appeals to the majority of people because of the fact that once past that period much of their former influence seems to be lost.

Wrinkles, sallowness, sunken cheeks and faded, lifeless hair are no longer regarded as the necessary forerunners of age, but are looked upon as audacious invaders whose onslaughts are to be instantly resented and repelled.

In reality the woman who knows how to care for herself and proceeds to make use of this knowledge is one who can be positive that she will live longer, look better and enjoy life twice as well as her more ignorant and hence her decidedly more unfortunate sister. There is nothing mysterious about this work of preservation. It is only practical to use care in preserving anything worth while.

For instance the careful housewife sees that the hot sun does not shine upon her delicate lace curtains or fade her costly draperies. Every particle of dust is removed each day from the mahogany and applications of polish made at frequent intervals to keep the surface in the best condition. Even the house itself must have a coat of paint at intervals to keep from looking weather beaten. From the care of the house and furniture to gowns and shoes the same careful attention is extended, and yet at the same time many of these same wise women are foolish enough to believe that the face, hair and hands need absolutely no attention and that it's "natural" to look worn, tired and faded after thirty years have passed.

Poor abused Mother Nature has had so many crimes of this kind laid at her door that she has long ceased to wonder at the injustice of it all, so in order to clear her from such accusations, let us whisper into the ears of the careful housewife who is careless of herself that Nature must be helped if good results are to be obtained. Take the most beautiful garden imaginable, and unless some one pulls up the weeds and destroys the worms the leaves of the plants will soon become yellow, the plant will wither and soon rank growths will choke out all the really desirable specimens. "Help Nature, and in this way help yourself," is the motto every woman should learn if she would make the most of her opportunities.

The woman in business must also remember this advice. If she would produce the desired effect upon her patients she must believe what she advocates, practice what she preaches and at all times keep herself up to standard. She should endeavor to work *with* as well as *for* them, and

should be able and glad at all times to explain every detail of every treatment she advocates.

For well trained operators, the demand has never been so great as at the present time, and hence every woman who really knows her work and is a good operator will find every moment occupied in caring for the many defects of the skin that so often mar the happiness of the unfortunates who have been improperly treated and who feel that their troubles have made them more than ordinarily conspicuous.

Unless the health is seriously impaired, few conditions will be found really hopeless. Patience and perseverance together can work wonders. So with a knowledge of the applications necessary, the use of electric current indicated, proper diet and hygiene there will be very few failures recorded if sufficient time is given to the work and enough treatments are taken.

The day of miracles is past. Commonsense treatment is here, and will remain a potent factor in obtaining any degree of improvement while to preserve such a result, intelligent care, will be all that can be required.

There are in reality very few hopelessly plain women. A little thought, sufficient work and good taste will work wonders for every one.

The girl with the Rocky Mountain features, sandy hair and freckles may make herself positively repulsive by pulling her hair tightly back and fastening it in a tight knot at the back of her head, exposing herself with no protection to the skin, in all kinds of weather, and finally by degenerating into a round-shouldered, bony picture of despair. A little attention, a few words of advice, wise direction, and behold, a willowy, smiling vision, the really fine hair loosely

coiled about the head, softening the outline of the features, the complexion soft and beautiful as a result of the necessary exertion morning and evening. Contentment has replaced morbid dissatisfaction and a spirit of goód fellowship impels her to help others to learn what may be done for them.

The swarthy maiden with heavy, black, bristling brows meeting in a point over the center of the nose, dull, colorless complexion, awkward, ambling gait and oily, coarse skin, is quite as desperate until she learns that the electric needle will permanently remove the point; tiny scissors trim the bristles into the delicate arch, proper care, refine and bleach the skin. Practice in physical culture will soon entirely change the carriage, and if under all this care the color does not appear, a harmless tint may be employed, and behold a different creature, her black eyes glowing with happiness, her presence breathing of good health.

The nondescript damsel, with eyes, hair and complexion that seem to have been selected from a jumble and thrown carelessly at her, has the most difficult time of all. A little study will enable her to find the style she should adopt, and then she must work accordingly. Invisible eyebrows may be coaxed into a well defined line, the fiery freckles frightened away by the use of ointments, the figure will develop astonishingly under proper work, and in short the "ugly duckling" will disappear and graciously give place to the beautiful swan.

So instances may be multiplied, in which a little knowledge has been of inestimable benefit to those who by improved appearance may alter the conditions of their life. Nature's failures are too numerous to convince the student that "whatever is, is right." She must learn to discriminate,

and must resolve to spare no effort toward repairing defects that may exist, as well as to use discretion in preserving the perfect skin that is occasionally found. Love of the beautiful is natural and universal, and those who have not the good fortune to be born with all the attributes necessary to the perfect type, may at least stretch out their hands toward the aids that may enable them to remedy the gravest faults, remembering always, that with health as a foundation, common sense as an aid, and perseverance to inspire, the results will indeed be satisfactory.

When it has been possible to know of these facts in youth, so much the better. If not there is still hope, for the clever woman realizes that as she grows older she improves mentally. Ripened by experience, at no time is her intellect more powerful, her wit keener, nor her judgment better than after she has passed the half century mark.

Physiological development has enabled her to maintain the erect carriage, full chest and well proportioned figure of her youth, and she now sees as never before the importance of the daily work, which, properly employed, will banish the lines traced by the gathering years, prevent the wasting of the tissues and preserve the contour and firm texture of the skin.

The power of beauty is universally acknowledged. In all countries, in all ages and by all types of men, poets and warriors, artists and statesmen, susceptible striplings and phlegmatic business men, alike testify to the potent influence of this wonderful gift.

It has been perhaps due to a realization of this fact that so many women have despaired, for after beholding the loveliness of others they who were but meagerly endowed with charms so lavishly bestowed upon more fortunate

rivals felt that it was useless to persevere in work which could but make them less repulsive. To women of this type the certainty of improvement so great as to be well worth while has been a wonderful stimulus. And as a consequence the shrinking, self conscious and unattractive woman of thirty-five has often been developed into a social power before she has reached forty. The mere realization of her success so fills her with quiet joy that she unconsciously inspires her associates with an ambition to follow her example.

A wise man once remarked "that to satisfy others one must be self-satisfied." This statement is indeed true and should stimulate the negligent into an effort to make the most of opportunities. The young girl should labor unceasingly to obtain the degree of perfection to which her very youth entitles her. The woman of thirty may have secured her knowledge later in life, but still not too late to know that by sufficient care she may postpone the appearance of age for years to come. Older women must be convinced that much may be done toward repairing the damages wrought by neglect and carelessness, and all women should be persuaded that it is quite as essential to devote a certain amount of time each day to personal attention as it is to waste hours in foolish gossip, embroidering useless doilies, or in caring for expensive ornaments. The chief ornament of any home is the woman who presides over it, and she should be ambitious enough to realize the importance of work that will aid her to preserve the charms she has, as well as to assist her in acquiring those she may be without.

CONTENTS.

PAGE

CHAPTER I.—The Appearance of the Normal Skin..... 15

The necessity for the use of pure soaps and oils. The effect of irritation upon the scarf skin. Experiment in skin grafting.

CHAPTER II.—Why Cremes are Necessary..... 20

Value as a protecting agent. Use of ointments among the ancients. Requirements of the skin. The folly of using any substitute in place of a pure oil.

CHAPTER III.—The Manufacture of Cremes..... 24

Necessary equipment. How to recognize the pure oils. Recipes for making Cremes.

CHAPTER IV.—Wrinkles, and What Causes Them..... 34

The presence of habit lines explained. Cosmetics and mechanical appliances to be used with discretion. Best manner of preventing lines of age.

CHAPTER V.—Why We Massage..... 39

The ideal masseuse, and her method of work. How often massage should be taken. How to prepare the face for massage. Value of cleansing the skin thoroughly. How to massage.

CHAPTER VI.—How to Massage..... 50

Why there is one system of work. Manner of using the fingers. Length of treatments. Use of the water massage. Electric vibratile and mallets as valuable adjuncts to the fingers. How to apply an astringent.

CHAPTER VII.—Blackheads, Pimples and Milia..... 64

Absolute assurance of success in most loathsome cases when proper precautions are taken. Cause of blackheads. How to use the comedone extractor. Method of opening pimples. Cleansing the cavities, and after treatment. Use of the negative needles to obstinate cases.

PAGE

CHAPTER VIII.—Diet and Directions for Home Work in Cure of Blackheads..... 76

Manner of treating oily skins. Use of green soap. Importance of proper diet, exercise and bathing. Importance of persistent efforts. How to proceed in removal of milia. Use of the galvanic current, followed by water massage in every case.

CHAPTER IX.—Chloasma or Moth-Patch..... 83

Application of powerful remedies for purpose of bleaching the skin a mistake. Value of mild treatments aided by electricity. Manner of treatment. Use of dioxide of hydrogen as a bleaching agent.

CHAPTER X.—Oily, Stippled and Sallow Skins..... 94

Advisability of thoroughly cleansing the skin of face and body daily. Suggestions as to diet. Use of mask for refining the skin. Best method of whitening muddy complexion. Value of massage in connection with the whitening process.

CHAPTER XI.—Scaly, Dry and Flabby Skins..... 100

Precautions to be observed in use of water or soap for cleansing. Oil mixture for sensitive skins. Value of electricity in restoring tone to flabby and withered skins.

CHAPTER XII.—How to Remove Freckles, Tan and Sunburn 104

Removal of freckles and precautions to be observed in protecting the tender skin. How to prevent tan. Ways of avoiding sunburn. Indolence or ignorance usually responsible for discomfort.

CHAPTER XIII.—The Use of Powder..... 110

A pure powder advisable as a protecting agent. Method of manufacturing. Recipes for bathing powder, face powder and a liquid cosmetic. Manner of applying powder.

CHAPTER XIV.—Hints on Bathing and the Use of Soap.. 116

The educated bather and her favorite bath. Use of lotion for softening the bath water. Jelly of violets for preventing roughness of skin. Sulphur, bran and electric baths and how to take them. Strongly alkaline soap to be avoided.

CHAPTER XV.—Useful Suggestions to the Operator with Directions for Sterilizing the Instruments..... 123

Strength of solution used in sterilizing hands and finger nails. Boiling process for instruments. Care to be observed in the use of creme. Demand for conscientious work in this respect.

PAGE

CHAPTER XVI.—How to Furnish the Treatment Rooms... 129

The most practical and effectual method. What is desirable, and what is necessary. The expense involved.

CHAPTER XVII.—Electricity 137

Simple experiment by which current may be produced. The best battery for ordinary use. Number of cells usually necessary. Measuring the current. Controlling the current. How to select a battery.

CHAPTER XVIII.—The Removal of Superfluous Hair..... 163

Directions for equipment. Position of patient. Use of negative pole, and how to insert the needle. Length of time necessary for each treatment. Advisability of using the bulbous needle. Treatment of skin after use of electricity.

CHAPTER XIX.—The Treatment of Moles, Warts, Naevi.. 176

Precautions to be observed in the removal of bristly hair before attempting treatment of the mole. Necessity for observing the appearance of the normal skin near portion worked upon. Number of treatments necessary and variation in different cases. Necessity for stronger current in treatment of warts.

CHAPTER XX.—Blanching the Skin, Discoloration, and Use of the Faradic Current..... 188

Curing red noses. Galvanic current as used in restoring tone to the skin. Method of using needle in Acne Rosacea. Removal of discolorations. Experiments in cataphoresis. Rapid method of bleaching the skin. Use of Faradic current in massage. Value of massage roller. Beneficial results obtained in treatment of scalp by means of brush attached to Faradic current.

CHAPTER XXI.—The Care of the Hands..... 203

The ideal hand. Manner of washing the hands properly. Use of rose jelly. Keeping hands smooth. Red and swollen hands. Cosmetic mittens and whitening paste refining agents. Disguise for red hands. Instruments used in manicuring. Recipes for polishing powder and bleaching lotion for nails.

CHAPTER XXII.—Refining and Developing—Arms, Shoulders, Neck and Bust—Use of Depilatory—Vibratory Massage 218

Value of exercise in developing arms. How to banish roughness of the skin of arms. How to bleach the hair. Use of the depilatory in obstinate cases. Massage and electric treatments. Developing neck and bust.

PAGE

CHAPTER XXIII.—The Mouth and Teeth..... 228

Beautiful teeth as rare as perfect gems. Cosmetic defects of the mouth and how to treat them. Receding gums. How to improve them. Removal of incrustations or yellowish deposits upon the teeth. The best dentifrice and how to use it. Method of cleansing the teeth.

CHAPTER XXIV.—The Care of the Feet..... 236

Importance of selecting sensible footwear. Massage of the feet. Treatment of swollen joints. How to cure ingrown nails and corns.

CHAPTER XXV.—Care of the Hair..... 245

Hair as the connecting link between vegetable and animal tissue. Cleansing of the scalp. Manner of shampooing. How to destroy vermin.

CHAPTER XXVI.—Treatment of Scalp and Hair..... 255

Massage of the scalp. Stimulating tonic. Electric treatments of much value in stopping the falling of the hair.

CHAPTER XXVII.—The Treatment of Dandruff or Seborrhea 264

Removal of crusts by means of application of ointments. Special shampoo for obstinate cases. Necessity for frequent shampoo until condition is remedied. Imperative need for earnest work.

CHAPTER XXVIII.—Common Diseases of the Scalp..... 273

Alopecia. Eczema. Use of electricity and the blue light. Trichophytosis.

CHAPTER XXIX—How to Dye and Bleach the Hair..... 280

Use of a hair dye cannot be permanent. Process of Dyeing. How to bleach the hair. How to brighten dull shades. Artificial appearance always imparted by bleached hair.

CHAPTER XXX.—How to Grow Thin..... 288

Rapid process of reduction almost invariably dangerous. Causes of obesity. Value of physical activity. Loss of vital capacity always found in obese conditions. Diet and directions for reduction of flesh. Table of weights.

CHAPTER XXXI.—How to Become Plump..... 294

Breathing exercises of much benefit. Necessity for proper amount of rest. Importance of overcoming undue nervousness. Diet, as advocated by best authorities.

PAGE

CHAPTER XXXII.—Physiological Development..... 298

Propriety of encouraging interest in this work among the middle aged. Experiment conducted by prominent educator and results. Wonderful benefits to be obtained by full breathing. Allowance of air necessary for each person. Bad effect caused by rapid violent breathing. Manner in which the busy women may secure best results from these exercises. A list of the most beneficial breathing exercises.

CHAPTER XXXIII.—Body Movements 310

List of exercises suitable for the majority of cases. Strengthening of muscles, arms, legs and back, especially considered. symmetrical development easily obtained by sufficient work.

FULL PAGE ILLUSTRATIONS.

		Page
Fig. 1.	Frontispiece	xiv
Fig. 2.	Massage—Rotary Motion	33
Fig. 3.	Massage of the Eyelid	38
Fig. 4.	Use of Electrolytic Cup	46
Fig. 5.	Massage of Forehead	51
Fig. 6.	Massage About the Eye	53
Fig. 7.	Massage—Showing Pressure in Back of Neck	55
Fig. 8.	Massage—Kneading Motion for Cheek	57
Fig. 9.	Massage Under Chin	59
Fig. 10.	Massage of Chin, Also Showing How Two Tasks May Be Performed at Once	61
Fig. 11.	Use of Comedone Extractor for Removing Blackheads	65
Fig. 12.	Using Negative Needle in Pimples	69
Fig. 13.	Face Cured of Blackheads and Pimples	73
Fig. 14.	Bleaching Skin by Means of Antiseptic Lotion Applied with Negative Carbon Electrode	85
Fig. 15.	Use of Light for Forcing Whitening Creme Into the Deeper Tissues of the Skin	87
Fig. 16.	Removing Marks and Old Cuticle in Bad Case of Chloasma After Ecorchement Process	89
Fig. 17.	Skin Free From Any Mark of Chloasma	91
Fig. 18.	Showing Result of Accentuating Features by Use of Eyebrow Pencil	113
Fig. 19.	Shampoo Chair and Board	131
Fig. 20.	Irrigating Stand for Use with Electrolytic Cup	133
Fig. 21.	Removal of Superfluous Hair by Electricity, Showing Negative Electrode and Forceps	165
Fig. 22.	Removal of Superfluous Hair by Use of Depilatory	169
Fig. 23.	Applying Depilatory	173
Fig. 24.	Use of Both Positive and Negative Electrodes On Same Growth	179
Fig. 25.	Growth in Neck Removed by Electricity in Fifteen Treatments	183
Fig. 26.	Use of the File	205
Fig. 27.	Use of the Orangewood Stick	209
Fig. 28.	Use of the Stick Polish	213
Fig. 29.	Use of the Buffer	215
Fig. 30.	Showing Action of Depilatory in Section of Arms—Smooth Places Indicating Effect in Removing Strong Hairy Growth	219
Fig. 31.	Removing Hollows From Neck	223
Fig. 32.	Enlarging Bust by Vibratory Massage	225
Fig. 33.	Massage of the Foot	239
Fig. 34.	Massage of the Joint to Reduce Inflammation	241
Fig. 35.	Bandaging Inflamed Joint	243
Fig. 36.	Massage of the Scalp	254
Fig. 37.	Massage of the Scalp	256
Fig. 38.	Use of Follicle Brush	258
Fig. 39.	Proper Use of Vibratory Massage on Scalp	260
Fig. 40.	Use of Sanitary Hair Brush	262

CHAPTER I.

THE APPEARANCE OF THE NORMAL SKIN.

The perfect skin is soft, smooth with a transparent luster, elastic and moist, with a coloring that differs greatly in individuals. In some instances it is like pale ivory, in others a pearly white, often a pinkish cast may be found, while certain nationalities possess the peculiar brownish, yellow tints found in the Spanish and Italians.

The exposed portions of the skin are darker than those protected by the clothing, and on close examination the surface will not appear smooth, but covered with the tiniest and finest of lines, some parallel, others intersecting, while in addition a growth of soft, almost colorless hair called lanugo is seen to be abundant. It is due to this peculiarity of structure, with its tiny furrows and elevations and soft down of the "wool hair," that the delicacy of appearance exists.

The skin is about one-tenth of an inch thick, and is provided with a natural oil, exuding imperceptibly under ordinary conditions, and keeping the flesh soft and pliable. Perspiration is excreted by the glands and carbonic acid gas is eliminated, while oxygen is absorbed. Thus, liquids, ointments and substances intended to correct the various defects may also be forced into the skin, and when rapid results are required the necessity exists for frequent bathing in connection with proper manipulation.

The epidermis, or cuticle, is the outer layer of the skin and is exposed to the air on one side and attached to the corium on the other. This exposure to the air naturally keeps

the outer layer in a drier condition and it is due to this fact as well as to the application of friction that the constant casting off of scales occurs. Ordinarily this process is barely perceptible, but when the secretion of oil is not sufficient to keep the skin moist, this scaliness becomes extremely objectionable and great flakes peel off continually, causing the face to look rough and coarse. Under the influence of an irritant or where there is made an attempt to bleach the skin, the same excessive flaking occurs until the applications cease. When the condition is extremely obstinate constant inunctions of oil are necessary in order to keep the skin in even a presentable condition. Hence the value of the flesh or skin foods in cases of this description, as the best of them are made from the finest oils and are readily absorbed by the skin.

The mucous or malpighian layer is the deepest of the outer layers of the skin and is situated directly above the corium. Cones descending from this mucous layer are met by the papillæ extending up so that all the hollow spaces are filled in. It is in this layer that the pigment cells are found and it is in a desire to affect this supply of coloring matter that the various ointments for whitening the skin are applied and rubbed in vigorously. The irritation of the friction loosens the scarf skin and hastens the peeling, while the manipulation assists in the process of absorption. Should the irritation be prolonged greatly there is danger of causing a greater deposit of pigment in this spot, instead of removing the old discoloration. Carelessness in this respect has ruined many faces, for the application of some of the powerful bleaches has produced deep cauterizations and thus left a permanent disfigurement, impossible to remove. No single treatment of the skin should ever be con-

tinued after redness or burning has been produced. The presence of this coloring matter in the mucous layer has been made the subject of a curious experiment in which a bit of skin from a white man was grafted upon a negro, with the result that after a time the grafted portion became as black as the rest of the body.

The corium, or "true skin," is made up of a dense, regular structure of elastic fibers. Under this is a layer of connective tissue and here as well as in the cellular structure is found the fatty tissue. The papillæ projecting from this corium into the mucous layer each contain either the daintiest capillary network or nervous apparatus. The healthy hue of the skin is thus produced and maintained by the tiny blood vessels, while when cold or under the influence of a great schock or terror, the nerve filaments produce the appearance known as "goose flesh."

The layers of the skin as named are the most important, though of course physiologists divide and subdivide them still farther and explain many details which will neither interest nor assist the ordinary student, so no mention is made here of the distinctions drawn by some of these authors. By studying the connection of the various layers it will be seen that the outer layer should be nourished by the proper action of the numerous glands in the lower sections, while the coloring on the cheeks and face naturally comes from the tiny blood capillaries projecting from the corium into the mucous layer by means of the papillæ.

The soft luster of the perfect skin is due to the proper actions of the numerous glands as well as the presence of sufficient subcutaneous fat. Hence any functional or local disturbance will naturally affect the coloring and appearance. In young and healthy people this luster is more pro-

nounced than in those who are older. In fact, one of the first signs of approaching age is found in the disappearance of this peculiar glow and a manifestation of a dry and illy-nourished condition of the skin as shown by numerous folds, at first very shallow, and afterward deepening into veritable furrows that become rapidly more pronounced unless properly treated.

The normal skin should possess none of these lines until the subject is so far advanced in years that age shows plainly. To the observant student it is apparent that it is more sensible to attempt to correct the various faults by a judicious use of external applications as combined with the necessary internal treatment, than it is to think that a few doses of medicine by way of the mouth into the poor, over-worked stomach, can possibly reach every portion of the body and correct every evil that exists.

There is a most peculiar impression among many people that all skins are normal and that the only exceptions to this rule are found in instances where cosmetics have been applied. In reality, there are just as many exceptions to the standard of health in skins as there are in bodies, and it is quite as absurd to say that no skin needs treatment as it is to say that no human being will ever need medical treatment.

The fact that the skin needs constant care to keep it in good condition can nowhere be better illustrated than in mentioning the preservation of the flesh of the neck and arms in almost every woman, whether any care has been bestowed upon them or not. The constant friction from the clothing keeps the pores freed from obstructions, while protection from the sun and air preserves the whiteness. The face, on the other hand, exposed to all changes of tem-

perature, biting winds and burning sun, is naturally affected greatly by this exposure. Discretion in caring for it will to a great extent, remedy the dangers of necessary exposure, and keep the complexion in good condition.

It is hoped that these lines may be convincing enough to prove to the majority of women the necessity of constant care to keep the pores freed from obstructions, the skin from unnecessary defects, and the face free from disfiguring wrinkles and the appearance of premature old age.

The treatments advocated in this book have been practiced for many years with absolute success. The articles are mentioned as used, so that the beginner may know exactly how to proceed, as vague directions but confuse the student. The successful woman in business must depend upon unguents of which she knows, if she expects to secure good results. Emphasis has been placed upon the importance of thoroughly cleansing the skin before work of any kind is attempted, because the pores must be in a condition to receive the material applied if the results are to be satisfactory.

CHAPTER II.

WHY CREMES ARE NECESSARY.

When any oil or combination of oils as found in cremes is applied to the skin it becomes soft, pliable and smooth. It is readily absorbed into the superficial layer of the epidermis and soon produces a clear appearance besides preventing undue tension and removing any roughness that exists. Methodical applications of ointments further their absorption into the skin, and even cause them to appear in the blood by way of the lymph vessels. Increase in weight, the pleasing roundness and improved appearance are thus explained as natural consequences after proper work.

As a protecting agent a good creme is unexcelled, for it forms a water-tight covering that serves to diminish the moisture given off by the skin. Sebaceous secretions, fatty acids of the sweat, and dirt may also be removed by an application of oils, while the use of a thin coating is always advisable in order to cause powder to adhere well. The actual necessity for the use of cremes can nowhere be better illustrated than during a trip through the Yellowstone Park. The only people who enjoy this outing are they who realize that their safety and comfort consists in cleansing the skin with a creme made for the purpose and then applying more before dusting on the powder. Water and soap should not be applied until the alkaline water has given place to the ordinary variety. Even then, many experienced travelers hesitate about using much of it, and instead, stand loyally by their cremes and powder. In fact, there are skins so peculiarly sensitive that no water can be used, and instead the surface must be cleansed with oil of some kind.

The use of seductive ointments and perfumed oils was so very general among the ancients that there was a different mixture advocated for every portion of the body, and as a basis for many of them the fat of an animal was supposed to be necessary. For instance, the pomade used for the feet and legs was invariably made from the animal who possessed most strength and speed. That for the arms and chest was termed Phœnician, while the most costly and delicate oils were reserved for use on the face, neck and hands. There is no doubt that the Greek and Roman women owed the preservation of their beauty to this practice of anointing after the bath, and it may well be urged on the women of the present century as a very necessary process in the art of beautifying, as well as a powerful aid in keeping the skin of the body and face in an excellent condition.

The use of a good unguent or skin food should be recommended for the purpose of massaging not only the face but also the entire body at least once a week after the vapor or steam bath. A good cream is one that may be readily absorbed by the pores, leaving the skin soft and pliable, but with no appearance of oiliness. Ointments are made the means of treating many of the skin affections, as they may be absorbed so easily into the skin, that in this manner much may be done by way of external application. In any treatments of this kind, it is very necessary that the pores be kept absolutely free from obstruction, so that the oils may be able to penetrate readily.

The knowledge of just what treatment each skin needs is one possessed only by the experienced worker. In many instances there must be a combination of remedies skilfully applied to counteract the various peculiar conditions, and in all cases much perseverance must exist. Many are troubled

with abnormally dry skins and with freckles also. The treatment in this instance must be so directed that the demand for a nourishing oil may be supplied, while also a penetrating remedy may be used in order to affect the abnormal amount of coloring matter in the mucous layer of the skin. In the work of treating blackheads, in which there is an excessive secretion of oil, there must be oil used to penetrate the glands and stimulate them, and the demand for an astringent is also to be considered. So the peculiarities of each individual must be studied and treated. In every instance the use of oils as combined in cremes is a necessity.

Although all intelligent workers realize and can explain to their patrons the reasons for applying ointments, there are many ignorant though positive souls who attempt to discredit the efficiency of work of this kind by asserting that the use of cremes will make the hair grow. If this were only true, one can well imagine the joy that would be speedily felt in the ranks of bald-headed men. The fortunate manufacturer of such a creme would immediately become famous as well as rich and would be regarded as a public benefactor. Unfortunately at the risk of disappointing many, one must be truthful enough to assert that no ordinary creme will cause the growth of hair.

All skins are covered with the soft wool hair or lanugo. In many instances as people grow older this growth becomes more apparent. Close observation in hundreds of cases has failed to reveal any connection between the appearance of hair and the use of cremes. Very frequently, in fact in nearly all cases, this abnormal growth appears also on the arms and legs, showing that it is not confined to the face alone. Fully one-half of the worst cases the author

has ever seen were found to be guiltless of ever applying any kind of a creme to the skin, while the remainder declared that they were convinced that there would be no connection between the use of a good creme and the growth of hair.

There has been an effort during the past few years on the part of unscrupulous or ignorant manufacturers to produce articles that shall take the place of substances containing oil, and many high-priced and strongly scented concoctions have been advertised for the purpose of massage, having for their chief recommendation the absence of anything like an oil or fat. This, in itself, should be enough to keep any intelligent woman from an attempt to use the articles, for every student of physiology should know from the nature of the skin that it must have oil of some kind applied if it is to be kept in good condition. That much-used term, "skin food," is really appropriate for how many women who have been withered and faded and haggard, years before their time, have had the skin so fed and nourished that they have looked years younger after only a week or so of proper treatment.

CHAPTER III.

THE MANUFACTURE OF CREMES.

The work of combining the various oils into odorous mixtures is one that appeals naturally to any woman. She who has not this inclination to don a big apron, and stir the foamy substance that is to make her far more attractive, must have either a heart of adamant or be utterly lacking in either imagination or sentiment. Few women ever grow so old or become so dead to their sense of beauty that they can honestly deny all interest in work of this character. And, as we all love to see flowers instead of weeds, well-kept houses rather than ruined huts, so, too, a well-groomed woman with a complexion free from defects will ever be more attractive than one who is lined and yellow from sheer neglect.

The necessity for the use of cremes has been so well established that it is useless to add more on the subject, but the process of making them may well need a few lines of explanation. This fascinating art is not without its drawbacks, chief among which is the very serious one that confronts most amateurs—lack of sufficient knowledge. Then, too, the work is not a cheap amusement, for by the time the various utensils necessary have been collected, and the numerous ingredients have been purchased, the outlay is far in excess of the cost of the purchased articles, while in addition there is always a possibility that the results may not be good. Of course, it is absolutely hopeless for any one untrained in the work to attempt the composition of any of the more complicated recipes, as both the equipment

and the materials would involve too great an outlay, to say nothing of the necessity for experience in the work. Hence, in the recipes that follow care has been taken to explain carefully each step, as well as to select only those that can be prepared with a comparatively certain degree of success.

A good almond oil is the basis of nearly every fine preparation. Of course every druggist keeps this oil, but every druggist does not keep the finest variety, as there is not enough demand to warrant it. Thus the woman who wishes to do good work will be under the necessity of purchasing her oil in the twenty-five-pound cans direct from the importers or large drug houses if she wishes to be sure of the quality. Cremes made from any nut oils will become rancid under the influence of intense or prolonged heat, and cremes made from inferior qualities of oils become rancid almost immediately, while in addition to this unpleasant property they also irritate the skin greatly. All cremes are best made in small quantities, and should, when not in use, be kept in a cool place with the covers of the jar well fastened down.

In purchasing ingredients care should be exercised to see that they are the best obtainable. A pure almond oil will be of a delicate straw color, clear as crystal, and with none of that strong odor so invariably associated with the ordinary oils. Lanolin is best purchased in pound packages after it has been subjected to the refining process. It has always a peculiar, sticky appearance and possesses a mildly distasteful and extremely distinctive scent. The finest wax is nearly white, not yellow, and comes in small round cakes, while the best spermaceti is usually found in long, white glistening cakes. Cocoanut oil, when pure and fresh, looks like a ball of snow pudding, though of course the strong

odor is never absent. Although other oils are used, the three mentioned are those most generally employed and also most beneficial in effect.

Before attempting to make any cremes an investment in an enameled water boiler is absolutely necessary. This should be used for nothing but work of this kind, and with it should come one or two long-handled granite spoons for stirring the oils. In making the creme, care should be observed in regard to the thorough melting of the white wax, spermaceti and other ingredients before the rose water is added. In order to have the mixtures appear the best, they should be well beaten from the time they are taken from the fire until they are cool enough to perfume.

Creme Celeste is a very good skin food when made of the finest materials. It is prepared as follows:

Almond oil	8 ℥
Spermaceti	2 ℥
White wax	1 ℥
Honey	1 ℥
Rose water	2 ℥
Borax	1 ℥

Rose geranium oil—sufficient to perfume. The oils may be melted together, and then the honey added and stirred in well. Last of all, the rose water, in which has been dissolved one dram of borax. Enough of the oil of rose geranium to thoroughly perfume the mixture may be used as soon as it is cool.

Almonda is the friend of the freckled maiden, though the action is so mild that she becomes a little discouraged at times, for it will not remake her instantly. Still she must reflect that no one inexperienced in the art should be intrusted with the use of chemicals that may be potent alike

for good or evil, depending upon the discretion with which they are used. This creme should be applied at night after washing the face with soap and warm water. It is not so penetrating as the whitening creme spoken of elsewhere, but has been used with very good results:

Almond oil .....6 ℥
Lanolin .....1 ℥
Spermaceti .....2 ℥
Cocoanut oil .....1 ℥
White wax .....1 ℥
White precipitate .....1 ʒ
Oil bitter almonds .....1 ʒ

Melt the oils together and then add the white precipitate first, mixed with one-half ounce of alcohol. Perfume with oil of bitter almonds.

Delight of the Harem sounds quite oriental enough to enable one to conjure up a vision of some dusky beauty, carefully applying this seductive ointment in the hope of making her warm olive skin look a deadly white. This creme is really used for whitening the skin of the neck and arms temporarily, and is especially useful for the purpose of disguising a bad skin in the evening. It should not be used on the face, as it is too much of an astringent.

Almond oil .....6 ℥
White wax .....1 ℥
Spermaceti .....1 ℥
Paraffin .....1 ℥
Oxide of zinc .....1 ℥
Orange blossom oil .....20 drops

In this preparation the oxide of zinc should be well sifted through bolting cloth before mixing in with the oils, as otherwise the creme may appear a little gritty. The

effect of applying this ointment is most pleasing and it is doubtless to some preparation of this kind that the professional beauties owe their snowy arms and shoulders.

The recipes which follow for the use of crémes made of strawberry and of cucumber juice are said to be highly beneficial. The chief objection to the use of these articles is the fact that they require more time in making, and are, of course, impossible to obtain at certain seasons of the year, for it is said that no hot-house vegetable will do for this purpose.

Strawberry Creme is much used to remove tan or discolorations that are not too pronounced. It is made in this manner:

Almond oil	8 ℥
Strawberries	1 qt

Allow the strawberries to simmer in the hot oil for three or four hours, until the greater part of the juice is extracted, and then strain through a cheesecloth bag without using any pressure. Proceed as follows, using for six ounces of the strained liquid these ingredients:

Strained liquid	6 ℥
Lanolin	2 ℥
Spermaceti	2 ℥
White wax	1 ℥
Tinct. benzoin	1 ℥
Bals. Peru	1 ℥
Oil Neroli	1 ℥

Add the balsam of Peru to the hot oils and then remove from the fire and stir, beating in the tincture of benzoin and adding perfumed oil last of all.

Strawberry Paste.—In connection with the use of

this creme the strawberry paste has also been used to some extent. It is easily made and may better be given here, as the two are so closely associated:

Fresh strawberries	1 lb
Gum tragacanth	½ ℥
Orris powder	1 ℥
Almond meal	1 ℥
Juice of lemons	3 ℥
Rose water	½ pt

Dissolve the tragacanth in sufficient rose water to form a mucilage, and then crush the strawberries and mix before straining. Add the orris root and almond meal and last of all the lemon juice. Apply in the form of a thin paste at night and remove in the morning, using the creme immediately afterward and dusting on powder before exposure to the air.

Cucumber Creme is prepared in much the same way, using the same amount of oil and cutting in it as soon as warm three good-sized cucumbers which have not been peeled:

Almond oil	8 ℥
Cucumbers	3

Heat well for three or four hours and then strain through cheesecloth, adding the following ingredients:

Strained liquid	6 ℥
Paraffin	2 ℥
White wax	1 ℥
Cocoanut oil	2 ℥
Oil of Neroli	1 ℥

A creme that may be used for eruptions that occur so frequently during the summer months is prepared in this manner:

Lanolin ..... 2 ʒ
Cocoanut oil ..... 4 ʒ
Paraffin ..... 1 ʒ
White wax ..... 1 ʒ
Carbolic acid ..... 1 ʒ

In this creme the oils are melted and the acid added when the mixture is cool. It is best if applied after washing the face well with a mild soap and warm water, just before retiring at night.

Another creme most popular with those who suffer from prickly heat or the tiny red pimple that appears on the arms and shoulders is made by using witch hazel instead of rose water, the other ingredients being practically the same as those used in any cold creme:

Witch hazel ..... 3 ʒ
Lanolin ..... 2 ʒ
Almond oil ..... 4 ʒ
White wax ..... 1 ʒ
Spermaceti ..... 2 ʒ

Skin Food.—For those who find glycerine agrees with the skin the following recipe for a skin food will be most acceptable, as in this formula it appears to good advantage:

Sweet almond oil ..... 4 ʒ
Spermaceti ..... 2 ʒ
White wax ..... 1 ʒ
Glycerine ..... 2 ʒ
Powdered borax ..... 1 ʒ
Rose water ..... 2 ℥
Oil rose ..... 10 drops

Melt the oils together and dissolve the borax in the rose water and glycerine. Add the other ingredients, beating constantly until cold. Perfume last of all.

The list of these pleasing and useful cosmetics is indeed a long one and might be continued indefinitely were it not decidedly impracticable for the ordinary amateur to indulge in the pleasing though expensive pastime of making cremes. Why it is, no one knows, but it is surely a fact that while women delight to make these cosmetics, they seldom have any faith in the efficacy of anything they can prepare, and it is probably due to this as much as anything else that so few women in business now manufacture their own cosmetics.

Buying any of the ingredients in a small way is extremely expensive, while the work of concocting the various articles requires much time as well as a special training. No one preparation can ever be used successfully for all defects, and it requires much knowledge to enable a masseuse to judge the requirements of each skin, as well as to know the best method of treating it. All work, to be beneficial, must be performed methodically and intelligently, and this applies especially to the use of the various remedies indicated in treatment of the ordinary skin affections.

The operator must remember that much besides the possession of a good formula is necessary if she is to make cosmetics that are to be really beneficial. She may be mixing up ingredients that are really harmful if she does not know enough to be able to tell when an article is pure, or, when it has been adulterated. She must not only know chemistry, but she must also know the physiology of the skin if she hopes to do really good work in manufacturing, and unless she can afford to obtain the necessary apparatus she is foolish to attempt any work in this line.

No greater mistake can be made by an operator than to tell her patients she knows a creme is pure because she

made it herself. The cities are filled with women who have never done anything to learn the correct method of making cremes but who nevertheless insist upon making the attempt to do good work in this line.

To be efficacious, a creme must not only be properly made but also properly applied, and not until all these conditions are understood can any one hope to do successful work. In fact, although many people dabble in mixing things just because of the enjoyment the work affords only a few reliable operators try to make their own cremes, but instead, purchase them of reliable firms, realizing that thus they are certain of doing much toward instilling into the minds of their patients a more implicit confidence in their method of treatment.



FIG. 2. Massage—the Rotary Motion.

CHAPTER IV.

WRINKLES AND WHAT CAUSES THEM.

Although the word wrinkle is unavoidably associated with the thought of age, in reality many wrinkles have little connection with the age of the person and are caused by the carelessness of the subject rather than by the weight of years.

Habit lines form in early life, and among those commonly observed, some of which serve to alter the most winning face into one far from prepossessing, may be mentioned the creases caused by elevating the eyebrows constantly while conversing. Lines of this kind are frequently deep and obstinate before the age of twenty has been reached. The straight line found running from the root of the nose up into the forehead, giving to the face a surly, disagreeable expression, is made by scowling or squinting when reading, or inspecting any object that requires close scrutiny. The appearance of these lines in exactly the same portions of the face in every member of a family from one generation to another undoubtedly points to the influence of heredity. It also indicates the existence of gross carelessness, for by a little effort toward muscle control, it will soon be found that any of these habits may be cured, even if every member of the family for the past seven hundred years has insisted upon having them.

Cosmetics containing harmful metallic astringents may also be mentioned as a cause of the appearance of deep repulsive lines, occurring particularly in the cheeks, and generally very difficult to remove. Wrinkles of this kind

are especially apt to cause an appearance of extreme age, even though the subject is a young person, for not only are the folds deep. but the surrounding flesh, as well, seems to be dry and lifeless.

Ill health is another factor in causing lines to appear, and in most instances of this kind the skin seems poorly nourished as well, while the lines appear by the dozen, crossing and recrossing the flesh until the face looks like a bit of patchwork. When the skin has the feeling of parchment, the lines are apt to be particularly hard to erase, and constant inunctions of oil are necessary to make the complexion even presentable.

Mechanical appliances are responsible for much trouble, and the use of the face steamer may be mentioned as being particularly harmful. The intense heat extracts the fat from the tissues and in time produces a flabby condition of the skin. The pores become large and the wrinkles form quickly. Another potent cause of trouble in this respect may be found in the small glass arrangement provided with a rubber bulb. By placing the glass upon the face and compressing the bulb, the flesh is drawn into the glass by suction. True, the blood rushes to the surface, and the skin becomes uniformly pink, but the mischief comes from the undue stretching that assists in producing fresh lines instead of removing the old ones.

Strongly alkaline washes and bleaches, undiluted alcohol, too much benzoin, and other similar preparations have an intensely drying effect upon the skin, and make much mischief by affecting the supply of oil necessary to a healthful condition.

An active factor in assisting wrinkles to appear may be found in nearly every bedroom. If the light streams

directly from the windows toward the bed in such a manner that the sun's rays can penetrate through the crevices of the shades or around the edges, falling directly upon the face, the lines about the eyes and forehead will be found unusually deep. This is due to the unconscious contraction of the brows, causing the wrinkles to multiply rapidly and may easily be avoided by either changing the position of the bed, hanging heavy curtains over the windows, or by using the foot of the bed in place of the head so that the sleeper will not face the light.

Lines of age are those that will come to every face in the course of time, for no power has been found as yet that is of avail in persuading Time to move less rapidly. The appearance of the unwelcome guests that mark the gathering years can therefore be treated only as a matter of course, at the same time making an effort to correct any faulty condition of the skin that may aid them in obtaining a stronger hold. Patient labor will do wonders toward making the traces less apparent, and if the skin is skilfully cared for, lines may not appear for many years. Of course, no face could be interesting without traces of expression, and the woman of a happy disposition who continually smiles whether at trouble or joy, will invariably have a face that will indicate this tendency, while the woman who is a victim of melancholia and allows her mood to govern her life, will just as positively exhibit to the world lines that betray her weakness. So the observant student who has cultivated the habit of studying human nature will be able to tell much of a woman's life by the appearance of her face, unless she has trained herself into exhibiting no emotion at any time.

Wrinkles that form later in life and that so clearly

disclose these secrets are caused by the loosening of the connections of the skin, the disappearance of the subcutaneous fat, and the connective tissue, and the flattening of the tiny papillæ. Hence the only method that will retard this process is that which consists in gently but thoroughly cleansing the skin in such a manner that the pores may be thoroughly opened and the oil necessary to the nourishment of the tissues may be readily absorbed. This process of absorption must be assisted by manipulation or friction conducted by means of the finger massage. The circulation should be brought into action by exercise and by the use of electricity when necessary. The application of cremes and nourishing foods should be made at frequent intervals in a systematic manner in order to replace the constant waste, while baths and correct massage will so tone and strengthen the muscles that the skin will respond readily to the work indicated. In the treatment of wrinkles emphasis should ever be placed on the use of gentle rather than forcible efforts to remove them and only the most scientific method should be employed in this work. By following instructions and observing the directions indicated in the illustrations the work may be done most successfully.

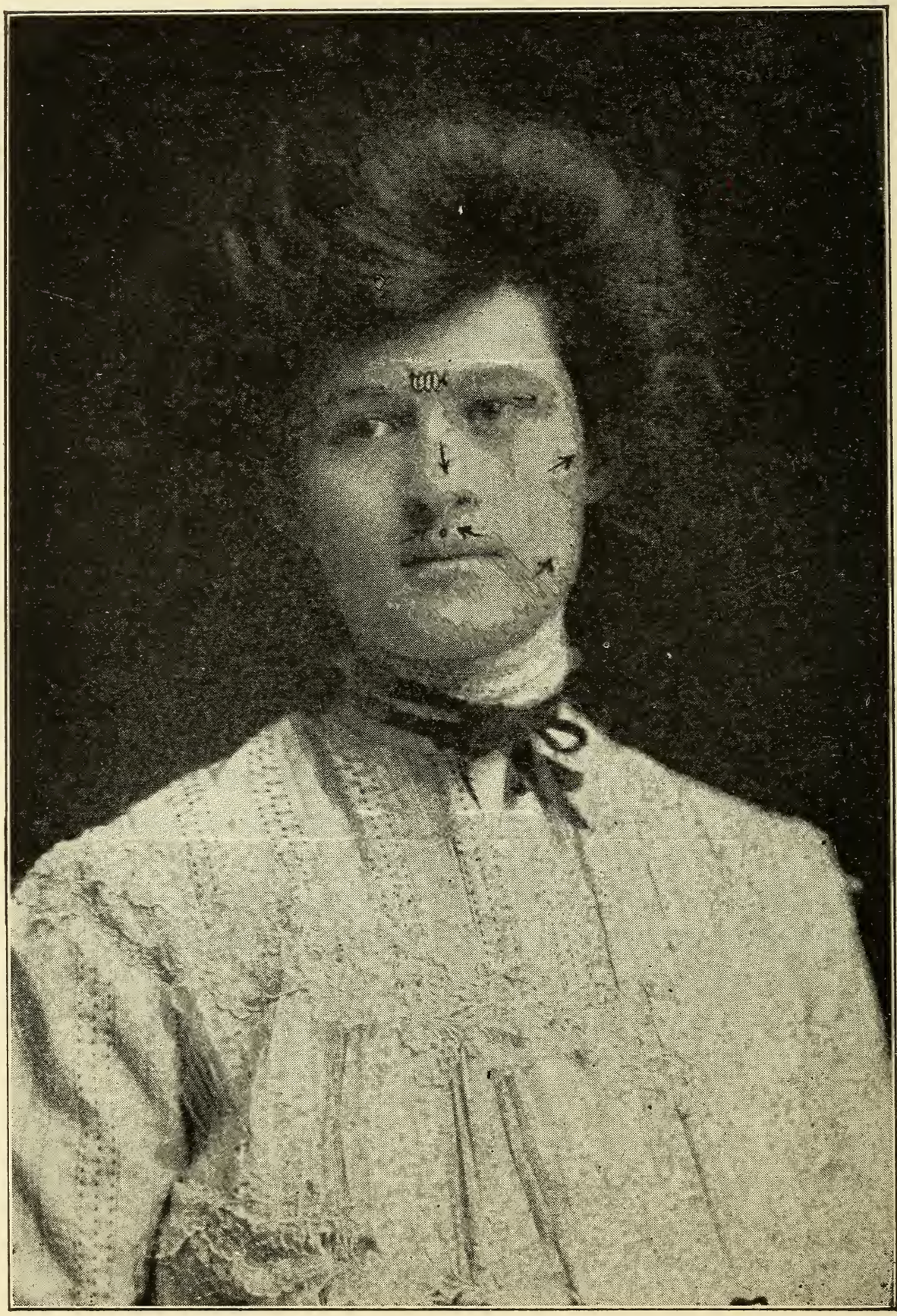


FIG. 3. Massage of the Eyelid.

CHAPTER V.

WHY WE MASSAGE.

Massage is now fully recognized as an important factor in the treatment of many skin affections. It is not only employed to retard the appearance of age, but is also valuable as an assistant in promoting the absorption of the various ointments used in the many skin affections. In fact, so great has been the progress of information regarding the best methods of treating the skin that one rarely sees an "old woman" now. Judging from the presence of children, and grandchildren, a woman will be known to have passed a certain age, but aside from this actual knowledge, her appearance will positively give no suggestion of her real years.

In reality massage bears to the face the same relations that careful cleansing does to the gowns that simply must last a certain length of time. Every woman knows that attention of this kind is necessary if she would keep her wardrobe in good condition, and in time all women will be convinced that they owe themselves at least as much attention as they bestow upon their clothing.

Although very excellent results are attained by the trained masseuse, still there is much to be said in favor of the home work, for by patient application of the principles of massage, any ambitious woman can succeed in keeping her face entirely free from those dreaded heralds of age—wrinkles. There is no doubt that the woman who is willing to give ten or fifteen minutes each day to this work, can practically clear her face from any signs of creases or lines.

Of course, there is much of advantage in being able to obtain treatment from those who have every appliance at hand to aid in the work, and in addition there is that soothing sensation of absolute rest so gratifying to the nervous soul who submits herself to the care of the professional. However, when it is not possible to do this, there is great comfort in the thought of what may be accomplished by dint of will and perseverance. When circumstances permit, the massage treatments may be taken twice a week with great benefit, and the systematic work continued at home just the same. If one has spent a restless night, and the morning shows signs of this wakefulness, a little cold water dashed over the skin and followed by a brisk massage for but two or three minutes will freshen the complexion and, in fact, invigorate the entire system, as well as do much service in the way of routing the enemy.

A skin food or creme is always used in connection with the massage treatment, not only because the materials will be absorbed into the skin, but also to aid the fingers in the work, as otherwise the skin would become red and irritated by the constant friction. In this climate, with its variations of heat and cold, every woman who wishes to appear well must positively pin her faith to the use of preparations of this kind. Nature may have intended all people to have beautiful complexions, but she also planned at the same time many other things, and as lives are lived without any reference to her suggestions excepting to complain because she has not done more, it is rather foolish to blame her for all the troubles that most of us possess.

The country maid is often quoted as an example of health and beauty, but alas! her comeliness is not permanent, and at thirty the buxom lass has lost her roses and most of

her teeth. The cheeks are hollow, the forehead lined. Streaks of brown invade the tan and make the complexion hopeless, while round shoulders aid to make her look every day of fifty. The worst of the matter is, she feels it, too, and is assured that the best years of her life have passed, while her city sister of the same age blooming as a rose, feels that life is just commencing to be of the most interest.

Physiologists tell us that the majority of people are not perfectly developed until they have passed twenty-eight years. Some of the muscles are only then perfectly capable of doing the work required of them. If this is true, the period of maturity may well be advanced another ten years and fifty should find a woman at her best. The majority of intelligent women are at their best at this age, but some of them who have not progressed so rapidly still feel dubious of the propriety of making an effort to appear youthful and look forward with dread to an inefficient and unenjoyable old age.

However, each day brings more recruits to the ranks of the hopeful, and as information becomes disseminated widely more women will see in the gathering years the time when perfected mentally, and in good condition physically, they can really accomplish great things.

Massage is naturally the one great factor in producing the best results in work of this kind, and of all forms of massage, nothing can give the benefit that the manipulations of the finger-tips bestow. Many devices have been invented and advocated. Many are excellent when combined with the original form, but all must be considered subservient to the soft yet forcible touch bestowed by the fingers of the good masseuse.

The cleansing process advocated as a necessary part of *every treatment* is based upon the requirements of the skin.

HOW TO PREPARE THE FACE FOR MASSAGE.

As a preparation for any massage treatment, the skin should always first be thoroughly cleansed by the application of a searching ointment that will remove the accumulation of fatty acids and aid in freeing the pores from sebaceous matter. This application of creme has entirely superseded the old fashioned use of hot towels because it cleanses without relaxing the muscles or enlarging the pores or inflaming the eyes, and best of all positively does not make the flesh at all flabby.

For the purpose of cleansing, an ordinary massage creme cannot be used as it is too heavy and dose not penetrate sufficiently. Hence the lettuce creme is always indicated. Before making the application, however, the subject should have her hair well protected by means of a headband, the gown should be covered with a long white apron and heavy towels folded about the neck and tucked in carefully so that there may be no danger of having the clothing soiled by any of the materials used.

Then a liberal coating of the lettuce creme may be applied upon the face and neck, not even omitting the ears. This should be rubbed in gently with the tips of the fingers, and allowed to remain on the face while the operator is preparing the water for the electrolytic massage.

The water should be used as warm as it can be borne with any comfort, and after the tank has been filled one of the three saturated solutions may be added, depending upon the condition found. Borax is indicated in an abnormally dry, wrinkled or scaly skin, salt for the ordinary skin or one

that is inclined to be porous, while soda is always indicated in the treatment of moth-patch, pimples, blackheads or an oily skin.

These solutions as the names indicate are made by adding to say a gallon of water just as much of the ingredient as can be dissolved. When a deposit is found on the bottom of the jar the solution is said to be saturated. One-half a cup of any of these solutions is sufficient for a treatment.

As soon as the irrigating tank or bag is filled with the warm water and the solution added, the next step is to attach the electric current, and this is done by simply inserting the small tip from the battery into the projecting arm of the cup.

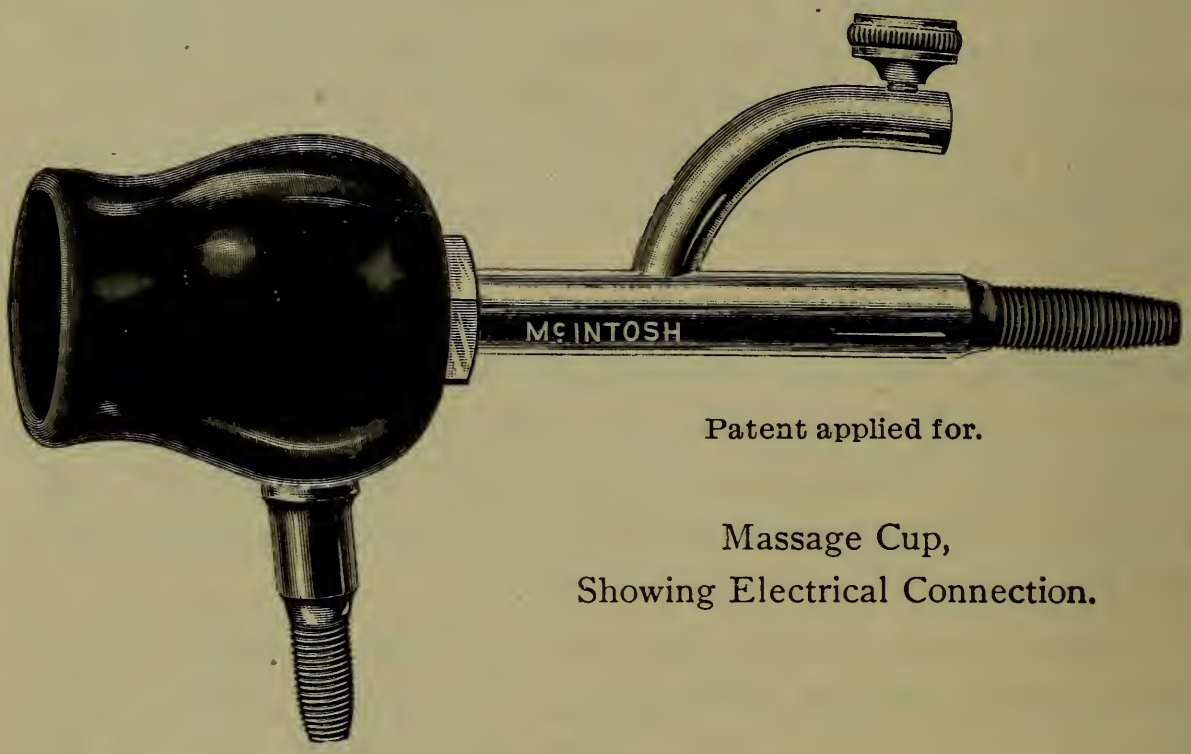
Then with a bit of soft cotton the lettuce creme may be removed from the face and neck, the patient given the other electrode to hold, and then after allowing a little of the water in the tubing to run into the waste bucket the cup may be gently applied to the face until suction is established and the work of treatment commenced.

Should the suction not seem strong enough, one of three things may be looked for as the cause. One is that the end of the outlet tube in the waste bucket may not be covered and hence the cup might be forced away from the face by the air, the other is that the inlet tube may be too near the face. This can be quickly remedied, and still another may be that the tubing itself may be plugged up a little. Any one of these difficulties may occur, but will cause but a trifling delay.

The electric connection is in the meantime maintained by having the subject hold one electrode in the hand, while the other is attached to the cup. If the wall plate is used from one to two and sometimes even more milliamperes

may be used. With the small battery from eight to ten and sometimes more cells will be found necessary and when this battery is used care must always be taken to see that the electrode held in the hand is kept thoroughly moistened.

In all of this preliminary cleansing work the negative galvanic current should be used and the effect produced is remarkable in that the skin is not only lifted from its



Patent applied for.

Massage Cup,
Showing Electrical Connection.

old grocves, but cleansed and stimulated and brought into the most receptive condition for the application of the cremes afterward. The effect is far deeper and does more to the true skin than can be accomplished by any other mode of treatment. At the same time the effect on the subject is most beneficial, resting and benefiting her at the same time the complexion is being improved.

Although electrolytic massage is always considered a necessary part of any treatment, still in connection with this work it must also be remembered that there are some

skins to which even water itself is an irritant, and any form of oil acts almost as an insult and hence the use of the electrolytic massage would be impossible. In others the skin is made rough for a day or two, but afterward is shown to be much improved. In the great majority of cases however the method will be found superior to anything else and productive of the most permanent results.

In the chapter on wrinkles it will be remembered that one of the causes of these unwelcome visitors was stated as "the flattening of the papillæ" in the deeper layers of the skin. In this treatment the electric current so strengthens and stimulates them that the appearance of age may be effectively retarded, pores long obstructed by blackheads may be cleansed, the sebaceous glands aided in their work, while coloring matter deposited in the deeper layers of the skin may also be sufficiently affected to make bleaching the flesh a far more simple matter.

The manner of using the cup is not at all difficult, and in Figure 4 the method of applying it to the face is clearly shown. In beginning a treatment it is always well to apply the cup to the fleshy portion of the cheek before opening the shut off. Then hold it there long enough to establish a suction, and using the fingers as guides, gently move it in direction indicated by the arrow in the illustration, bringing it back toward the nose and then out again in a sort of triangular movement. By observing the general rules for massage and using sufficient deliberation in moving the cup about, and always remembering to keep the outlet tube pointed downward, but little water will be spilled by a beginner, while a professional will almost never experience any difficulty. The hardest places to treat are the forehead and the sides of the nose, but even here with care, there will be little real trouble.



FIG. 4. Use of Electrolytic Cup.

In every instance it must be remembered that the fingers simply serve as aids in the work and care must be exerted to avoid using undue pressure. When once the suction is established, the cup glides easily over the skin, thus good work is really retarded by attempting to hold it too firmly.

The first treatment is always given with warm water, and in this may be placed the various substances indicated by the conditions found. If the skin is scaly, dry and shriveled, a half cup of saturated solution of borax may be added to the water and the negative electrode of the galvanic current attached to the cup, while the subject holds the positive in her hand. The galvanic current is indicated in every treatment because it alone has the power to change the solutions and force them into the deeper tissues. When the cup is used with the faradic current a stimulating action is the result, and when used without electricity the solution simply acts as when applied to the skin in an ordinary manner with the exception that the pores absorb more readily because of the gentle suction employed.

If the skin appears lifeless and looks as though it needed stimulation, a half cup of saturated solution of salt is to be added to the water and again the galvanic current may be employed. This salt solution has a truly remarkable effect on many skins and is often employed by the author as the best method of aiding Nature in the work of remedying existing defects.

In the treatment of blackheads, or where the skin appears coarse and oily, a half cup of soda solution is used and the same electric attachment made. Negative to the cup, positive to the hand of the patient.

For a yellow and discolored skin, or one covered with moth patch, the salt solution may be employed if there is no oily appearance and the soda solution where oiliness

exists. Thus for every condition found there is a possibility of reaching into the deeper tissues by means of this new method.

Many operators who have never employed the galvanic current hardly know what to expect in the way of a sensation, and are agreeably surprised by the pleasant tingling produced by this current. A slightly metallic taste is usually an accompaniment, but as this is not at all disagreeable no one ever complains about it. The effect on the nerves is so restful that it is recommended by many physicians for this reason alone. It must be remembered in giving a treatment that if the skin is in very bad condition the more cells that are brought into circuit and the longer the treatment is continued the more rapid the effect. Of course this is a rule that must be used with discretion, and hence the following suggestion must be observed. In connection with this form of treatment, six cells from the ordinary battery may be employed at first, and others brought into circuit as required. The sensations described by the subject are usually the best guides to the number of cells used as the tingling gives way to an unpleasant pricking if too much electricity is used. The best equipment includes always a milliampere meter, which permits of accurate measurement of the current; not more than two milliamperes will be tolerated by the average person, though of course a smaller quantity is tried to begin with, and more gradually brought into use as may be indicated by the tolerance of the patient.

Following the use of the warm water the manipulation with the finger tips commences, and here especial emphasis must be placed on the use of the proper ointments, for the skin has been so cleansed and stimulated that it is in the most receptive condition. For the dry, shriveled skin,

tissue food should be employed. For the dark, discolored or freckled skin the whitening creme will be necessary, while for blackheads, pimples, large pores or oily skins the acne creme is always used. In every instance the neck must also be included in the treatment or otherwise the difference in color will be too apparent.

Immediately after this finger massage the bag must be filled with cold water to which half a cup of saturated solution of alum has been added. Here the faradic current may be employed if desired or the negative pole of the galvanic current may again be attached to the cup. The use of the cold water is especially to be commended about the eyes and beneath the chin because of its tendency to make the flesh firm. The effect of this last treatment is so deliciously invigorating that one enthusiast describes it as being just what she should imagine a "mental shower bath might be."

Following this cold water, powder must be dusted over the skin before the subject is allowed to go into the air. If the skin is unusually sensitive and shows powder readily, the Acacia Balm may be applied as a substitute. If the skin is unusually oily and thus needs further attention, a soft cloth may be immersed in this solution and rubbed gently over the surface before applying the vegetable powder.

One dram of aromatic spirits of ammonia, to which has been added twenty drops of the oil of lavender is added to one quart of water. Two spoonsful of bicarbonate of soda may next be added and the lotion well shaken. This makes a delightfully refreshing lotion that can be kept ready for use on all occasions and as it is not at all expensive will meet with the requirements of both subject and operator.

CHAPTER VI.

HOW TO MASSAGE.

The work of massaging the face is not one that can be learned in two or three lessons or by means of reading a few lines on the subject. It is a study that takes both time and practice. Results will be excellent in all cases that are studied and worked upon carefully, but unless the work is done in this manner nothing worth while can be accomplished.

The system of massage advocated in this book is one that is based not on the pet ideas of one or two people, but on the strong foundation of the requirements of the skin as known from the study of physiology and anatomy. Not only the muscles have been considered, but the positions of the nerves and blood vessels have also been a matter of much study and as a consequence the method illustrated, when properly carried out, will indeed do much for the patient. The illustrations not only indicate from the position of the arrows just what direction the manipulations are to take, but also show just when the rotary motion is of most benefit, by the presence of the spiral. Most of the work should be done with the soft tips of the two first fingers excepting when in massage of the cheeks or neck or chin the flat fingers of the hand are indicated.

The most successful masseuse will naturally be she who understands and practices her art in a conscientious manner. When in addition to the real interest she feels in each patient she is also sufficiently versed in the study of human nature to be able to give each one the most suitable advice,



FIG. 5. Massage of Forehead.

she is doubly fortunate, for she will succeed in instilling a sensation of confidence always necessary for the best results.

In the previous chapter the importance of thoroughly cleansing the skin has been sufficiently explained. By following the directions given and remembering the importance of using the proper ointment during the manipulation by the fingers, the preliminary work will be well done. In all work one must remember that massage is to the face what careful pressing is to a gown. Both processes preserve an appearance of freshness and obliterate unsightly folds. Any one who is at all observant, and alert to the possibilities of improvement, may obtain results by practicing the rules given in the care of her own face, and thus proving to her own satisfaction the absolute correctness of the method.

In beginning a treatment it is not only unnecessary but undesirable to coat the face thickly with creme. If too much is applied the fingers slip about instead of manipulating the flesh properly and no real massage can be given. Just enough should be applied to make the work pleasant, and more may be added from time to time.

For a sensitive, dry, scaly skin the tissue food should be selected as the best creme for massage purposes and if the skin is extremely dry and scaly the red light of the bell shown in illustration may be used for forcing it into the deeper tissues before the massage is commenced. If, on the other hand the skin is inclined to be yellow, or freckles or covered with moth patch, the whitening creme should be used, while for large pores, a coarse skin, oiliness, blackheads or pimples the acne creme should be employed.

The creme should never be taken from the jar by the



FIG. 6. Massage about the Eye.

fingers but should either be dipped out by means of an ivory spatula and then applied to a bit of cotton to be rubbed on to the face, or a fresh ivory spatula may be utilized for each person, always taking out enough creme to do the massage. By observing this rule and by carefully cleansing and disinfecting the hands, both after a massage and before giving one, there will be no danger of carrying germs by carelessness on the part of the operator. Too much importance cannot be placed on careful adherence to these rules as in this way only can thoroughly honest work be done.

The pressure exerted by the fingers should be firm though gentle and in no case should undue strength be exerted as the result would be to bruise the deeper tissues. The motion of the fingers must be leisurely. No good massage can be performed in a hurried or jerky manner. As a guide to the length of time necessary for the average case it may be stated that at least forty minutes will be required for each treatment, allowing for the use of the electrolytic massage, both before and after manipulation. Work done by using hot towels in connection with the finger manipulation can of course be given in less time, but the entire practice is so wrong from every standpoint that it is to be hoped no really good operator will consider attempting it.

In every face some portions will be far more deeply lined than others, and of course in these sections more work must be done in order to make the wrinkles as dim as possible, while advice should be given in regard to any habits that might induce the presence of these lines, for often only a few reminders will suffice to cure the subject of carelessness in these matters.



FIG. 7. Massage—Showing Pressure in Back of Neck.

After applying the creme used it should be rubbed into the skin of the face and neck by means of a gently rotary motion and after a little of this preliminary stroking the real massage may be commenced by working first of all upon the forehead according to the directions given.

The lines on the forehead are generally rather obstinate to erase, as in the majority of people the habit of raising the brows continually while conversing or of squinting the eyes while attempting to do fine work has made the straight creases between the eyes and the horizontal folds extremely deep. In illustration (Figure 5) the proper motion for erasing the long lines is seen, the tips of the two first fingers are used for this purpose, pressing gently but firmly on the flesh. The fingers of one hand move down toward the brow, while those of the other move toward the forehead, thus passing and repassing continually while the process is continued. After a few moments' work the effect will be seen to be remarkably pleasing, as even the deepest lines yield to the gentle pressure.

The vertical lines between the eyes are best rubbed as indicated in Figure 2, in rotary motion made by pressing the fingers firmly upon the flesh and then describing small circles. In this work only the fingers of one hand may be used for the massage, though the two first fingers of the other may be used for keeping the flesh in place. When these lines show a tendency to spring back into place almost immediately, it is well to smooth out the forehead until it is free from lines and then paste bits of court plaster across the lines in such a manner that they cannot form again. This little precaution is extremely valuable and when applied during the first part of the treatment often assists in the work of making the face appear better. The fact that



FIG. 8. Massage—Kneading Motion for Cheek.

the court plaster prevents contraction of the brows reminds the patient that the habit may be broken by the exercise of a little effort.

The lines radiating from the eyes are apt to form the earliest of any, and often the deepest and most difficult are indicative of nothing more than an extremely merry disposition. Women who have much trouble, physical or mental, are also apt to have deep lines, while those with weak eyes are especially afflicted. In Figure 6 the correct motion for pressing out these lines is indicated. The flesh is held between the thumb and forefinger of the one hand firmly while the two first fingers of the other are used to rub down across the lines, and in a gentle rotary motion beneath the eyes. Figure 3 shows the manner in which the eyelid is to be rubbed, and Figure 2 indicates the rotary motion used directly below the eye. This work about the eyes is most particular and must be carried on very gently indeed. Where there is much bagginess and puffiness beneath the eyes there should be a great deal of the cold water used in the water massage treatment, and the rotary motion should be very light. The massage from the corners of the eye may be continued up to the temples, rubbing as indicated in Figure 2.

The nose may be massaged as indicated in Figures 6 and 8. In this work the motion may be continued down from the space between the eyes across the tiny lines that sometimes form each side of the nose. From the bridge down to each nostril the pressure may be firm or light, according to the results desired. People with thick nostrils generally desire to have them made as unobtrusive as possible, and the work of massage will accomplish a great deal in so affecting the cartilages that the thick appearance may be effectively subdued.

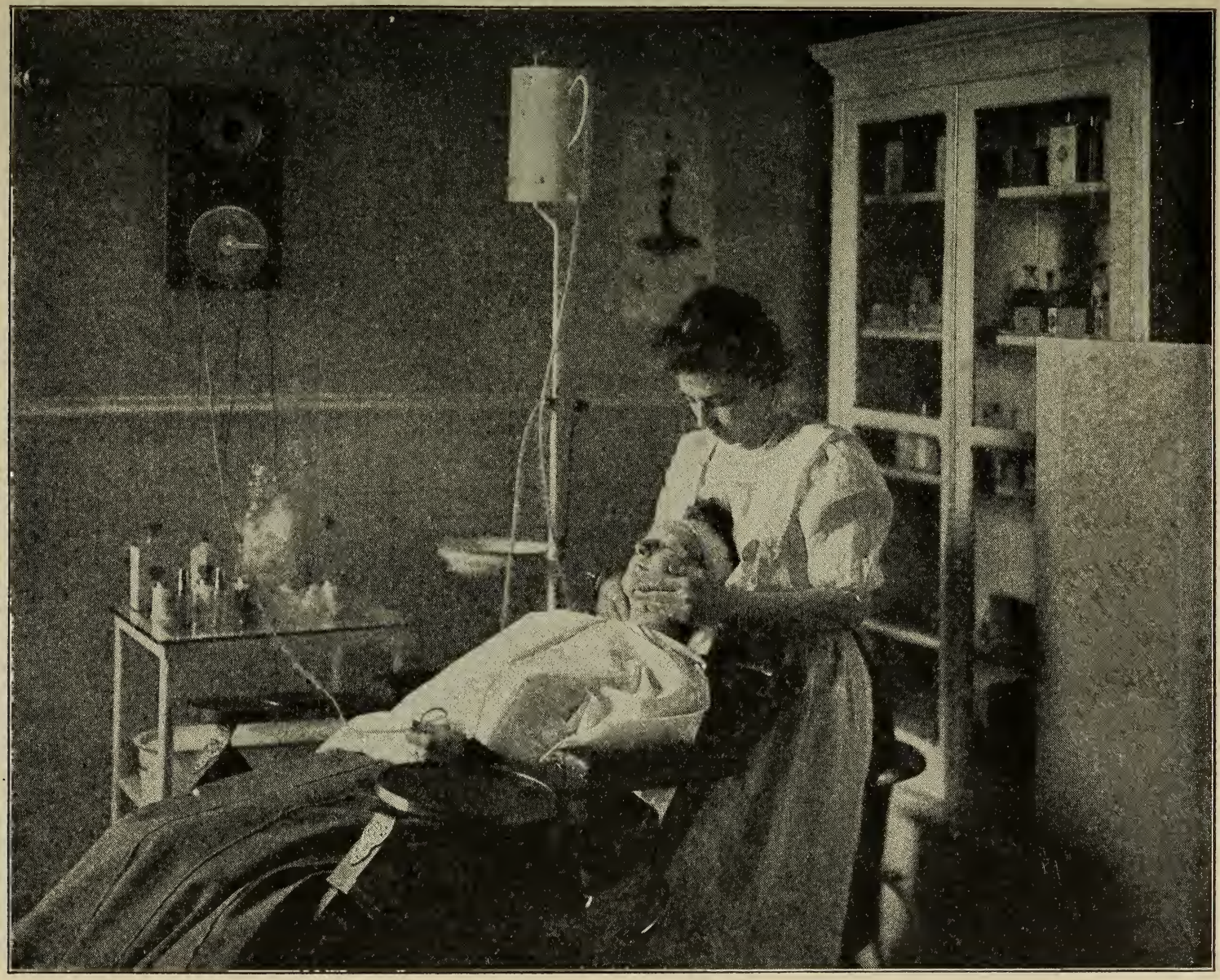


FIG. 9. Massage under Chin.

The cheeks, as indicated by the arrows, are best treated by rubbing in the manner shown from the center of the face outward. For this work it is well to use the flat portion of the hands and in rubbing, watch carefully to see that no new lines are rubbed in around the eyes or temples. The deep lines running from the corners of the mouth to the nose may be rapidly rubbed out by this method. In Figure 7 the arrows indicate that attention should also be directed to rubbing the flesh below and directly in front of the ears also, as small lines forming there soon develop into perfect furrows unless promptly discouraged.

The mouth is peculiarly difficult to manipulate, both because the lines about it are apt to be sharply defined, and also because the fingers are apt to slip away from the yielding surface. In Figure 8 the best method is illustrated. The forefinger is placed in the center of the circle and the thumb and second finger are placed at the corner of the mouth and then drawn slowly toward the center. This may need to be repeated a number of times before the exact motion is acquired, as the flesh is so flexible. The lines are little half circles shaped thus ( ) at the corners of the mouth and are best obliterated by rubbing from the mouth in the direction indicated by the arrows.

The chin is massaged as shown in Figure 9, the circular motion may be done by the two first fingers or else the chin may be grasped firmly in the hand and a twisting motion from side to side given. The flabby flesh or baggy portion directly beneath the chin may be made much less conspicuous by using the proper motions very frequently. As indicated, the stroking is to be done from the center down toward the neck. The flesh will become firm and solid and the tendency to flabbiness will disappear gradually under treatment.



FIG. 10. Massage of Chin, also showing how two tasks may be performed at once.

The neck may be rubbed, as shown in Figure 9, by using the four fingers held flatly on the flesh and drawing them back from the center always. Never attempt to rub the neck up and down at the sides, but always in the same direction toward the back. The deep lines that form back of the ears and run toward the front may be easily kept in suggestion by directing much attention to this spot in the use of the water massage. When the neck is at all discolored, as after the use of high or stiff collars, the massage may be given with the whitening creme, thus accomplishing two things at the same time in the way of bleaching and removing lines.

Following the massage the cold water may be employed, always remembering the hints given before in regard to the tonic action of the liquid when used beneath the eyes and under a chin that shows a tendency to become flabby. The addition of alum to this water cannot be too strongly commended as it does much to restore firmness to the skin. In the use of this treatment there need never be any fear of injuring or stretching the skin in any manner. Continued use only tends to keep the flesh pliable, firm and fresh in coloring as well as in most healthy condition. In fact the flabbiest skin will be wonderfully improved by commencing this work even after years of neglect have tended to make the task appear hopeless. Of course, however, in this, as in everything else, one must remember that the treatments must be given at regular intervals, and the care at home must be what common sense demands, to achieve the most pleasing and speedy results, though if only an occasional treatment can be taken the opportunity should be grasped, for in any event improvement is sure to follow.

If the face massaged is that of an elderly woman, or if

the skin seems poorly nourished, the use of electricity is advisable in place of the mallets. For this purpose the current may be used immediately after the supply of cold water has been exhausted, and may be administered through the finger-tips as illustrated. The skin should be powdered as usual after the treatment is finished. Very severe cases where the lines are unusually deep and the skin exceptionally dry in appearance, should be treated daily if possible, and a sensible diet, with sufficient exercise, recommended. Improvement is absolutely certain, though, of course, it will not be as rapid in older women as in younger ones. The necessary point is persistence, and if the woman troubled with lines is also endowed with a will, the work will assuredly do all that can be wished.

CHAPTER VII.

BLACKHEADS, PIMPLES AND MILIA.

One of the most difficult tasks assigned to the masseuse is the treatment of the loathsome pimple and blackhead cases so extremely common among young people of both sexes. The demand for this work has never been so great as it is at the present time, for it is only within the past few years that people have realized that affections of this kind could be termed skin diseases rather than blood disorders. Still, notwithstanding the interest manifested in the work, comparatively few of the operators even in the largest cities either understand or practice the art of improving skins so afflicted.

In fact, even well-informed parents so far forget their knowledge of physiology as to declare the blackheads should not be removed, but allowed to "run their course." Their awakening has been indeed bitter, for ordinarily the result of neglect in these cases terminates in most repulsive eruptions of pimples filled with pus, causing the skin to appear as though it were dotted with festered lumps. In many instances the flesh has become permanently thickened, and the complexion made dull and muddy by this failure to take the proper treatments.

The great secret of success in this work is in the exercise of constant and untiring care. If all cases of blackheads were taken in hand immediately, and persistently worked upon until cured, there would be more good complexions to be seen, while obstinate disorders of this kind would indeed be rare.

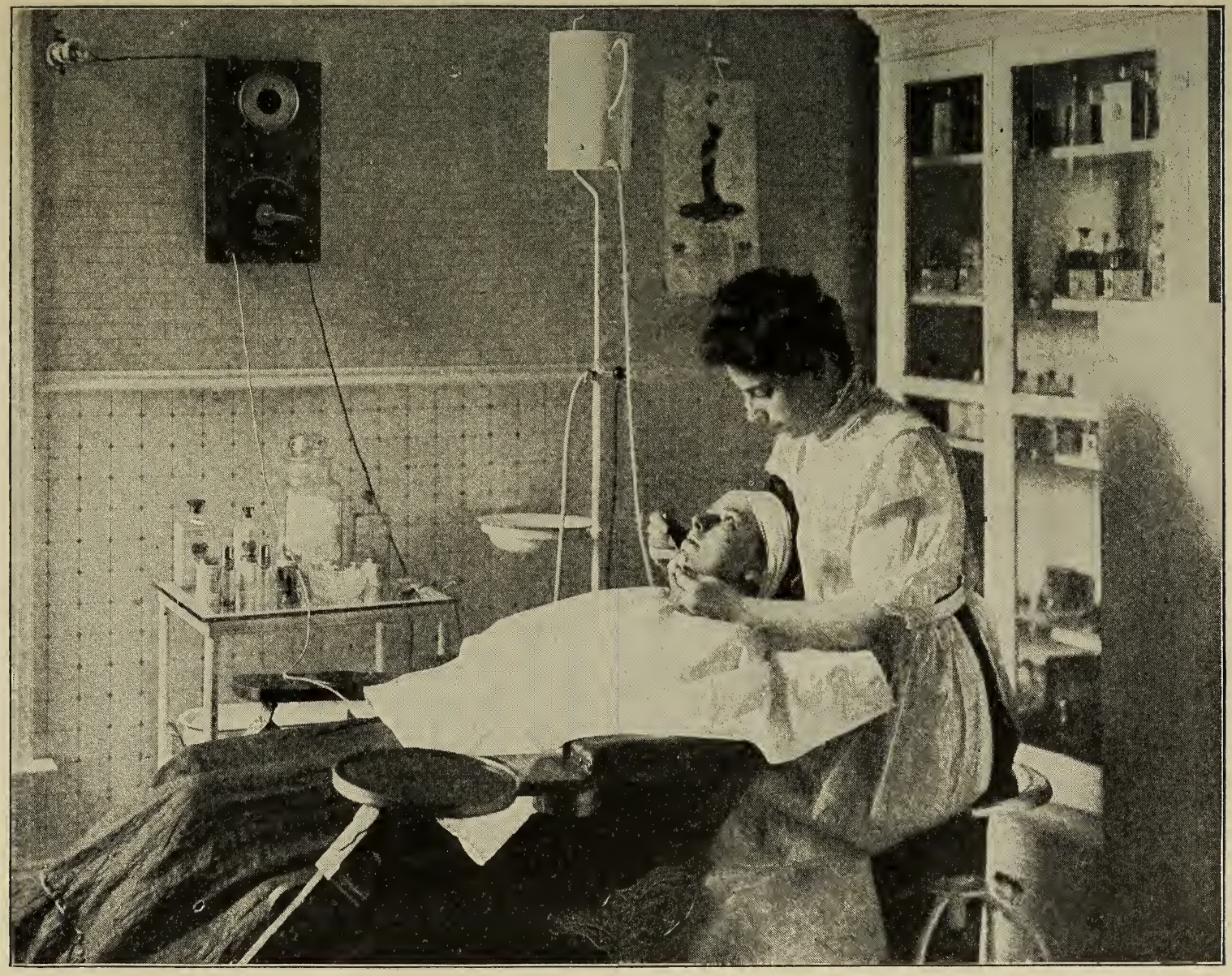


FIG. 11. Use of Comedone Extractor for Removing Blackheads.

The term "blackhead" really is not one used by those who wish to be correct, but it is so descriptive that it has become commonly accepted and is universally known. The text-books refer to these obstructions as comedones, while many people still persist in declaring that "flesh worm" describes them perfectly, at the same time insisting that the pests are really alive. In point of fact, whatever may be the term used, these much-discussed and troublesome invaders are nothing but fat, white plugs, formed by accumulations of the sebaceous secretions that persist in blocking up the pores and thus preventing the glands from performing their functions.

Although at one time supposed to indicate uncleanliness blackheads are so frequently found that the old idea has given way to another in which all authorities declare that they are caused by some peculiar local condition and do not necessarily indicate anything beyond this fact, though functional disturbances and lack of sufficient nutrition may be cited as disturbing elements. However, the majority of cases are found in young and robust people who are otherwise models of physical excellence, so this latest idea seems to be based upon sound reason.

There are many varieties of these black plagues, all of them requiring much attention and earnest work before they can be persuaded to leave. Some are fine and so tightly embedded in the skin that it seems impossible to dislodge them. Others are large and coarse, and even protrude above the surface, leaving deep pits in the skin where removed, thus making much massage necessary in these spots. Still others seem to possess a tendency to fester, and upon pressure, not only the blackhead but pus comes out at the same time. All of them require the same treatment, for if the

pores are to be made to appear as they should and the glands are to perform their natural functions, these obstructions must be removed and the applications of ointments made that will assist in the process of reducing the size of the enlarged pores by restoring tone to the glands.

In removing blackheads care must be taken not to bruise the tissue, and the habit of squeezing the skin between the thumb nails, using a watch key or any instrument not especially intended for this purpose is to be strongly condemned. The use of the face steamer before the work of pressing these blackheads out, is also injurious, as the fat is extracted from the tissues by means of the intense heat and this increases the tendency of the skin to scar. The comedone extractor is provided with a tiny scoop at one end and is made with either a needle point or a knife at the other. This instrument produces the best effect, for it not only removes the blackheads easily by means of gentle pressure, but it also marks the skin but little, and never permanently scars or bruises the flesh.

HOW TO PROCEED IN THE BLACKHEAD AND PIMPLE WORK.

First of all, the face should be cleansed by anointing it with lettuce creme, and using the electrolytic massage and very warm water with soda solution. All superfluous creme may now be removed from the skin by the use of some absorbent cotton, and the flesh well washed with a one per cent solution of formalin, using for this purpose a soft cloth or some of the cotton. The hands, of course, have been scrubbed with soap and water and immersed in an antiseptic solution, and the instruments cleansed as directed in the chapter on sterilizing. The tiny scoop on the end of the comedone extractor is now used to press down at the side

of each blackhead and gentle pressure exerted in order to force it out. If it seems unusually obstinate it is best to pass on to the next one or else use the needle point for puncturing the little fold that sometimes forms over the black dots. It is best not to remove too many at one time, and not to irritate the flesh very much at first, as the skin is apt to be extremely tender for a time. Pressure about the nose or on the forehead is rather painful and much care should be exerted when working on these sections of the skin. In Figure 11 the use of the comedone extractor



The Comedone Extractor.

and method of removing blackheads is nicely depicted. After all that will come out easily have been removed, the acne creme is applied, and massage with the finger tips follows, pressing with the balls of the fingers, especially upon the parts that have been treated. This treatment is especially directed toward improving the nutrition of the flesh and is a most important part of the treatment. After about fifteen minutes' work the bag may again be filled with warm water and used as before and the treatment finished by using the cold water.

The work of treating pimples is to many so repulsive that they refuse to even consider it. However, when one considers the actual benefit not only physically but mentally that will come to the one who is properly treated, this repugnance will usually vanish, and instead a genuine interest in the work will be manifested.

There are so many varieties of pimples that the very



FIG. 12. Using Negative Needle in Pimples.

list of names would be confusing, hence in speaking of them they will all be classed under the very general title so commonly used. Those found either in connection with blackheads or alone are invariably filled with pus and look red and angry. They will sometimes appear in certain parts of the face, and after remaining several weeks will vanish, only to be replaced in a week or so with another pimple in precisely the same place and quite as obstinate as the first one. Other pimples will appear and itch so intolerably that it seems absolutely necessary to scratch the skin. The finger-nails thus convey the infection from one part of the skin to another and as a consequence the entire face becomes broken out in a disgusting eruption. In all cases, the only way of permanently removing and curing these pustules is by observing the following instructions:

The skin should be cleansed and prepared as directed in the work on blackheads with, of course, special precautions in the preparation of the hands and in the sterilization of instruments. The comedone extractor should then be brought into play for the purpose of entering each pustule, using the curette for gentle pressure in the work of expressing the contents.

If there seems to be an obstinate cheesy substance present that does not yield to this pressure, the use of the negative galvanic electrode in the shape of a sharp needle is indicated and this instrument should be introduced into the cavity and moved from place to place, using the current as strong as it can be borne with comfort until the contents of the pimple are sufficiently dissolved to yield to the pressure.

As many pimples as possible should be opened in this manner, covering portion treated with a bit of cotton soaked in peroxide the moment the needle is withdrawn. When

the pimples seem deep and painful and yet nothing can be expressed even after the needle has been inserted, several applications will be found necessary to bring about the desired result. Old, obstinate cases of recurring pimples are always benefited and in time banished by this use of the needle.

After as much of the surface has been treated as either time permits, or as judgment decides feasible, the face should be well coated with acne creme and the blue light used for fifteen or twenty minutes for forcing the creme into the deeper tissues, the fingers of the one hand, of course, all the time being employed in a gently rotary motion. This done, the ball electrode must be covered with absorbent cotton that has been thoroughly moistened, connected with the positive current and used with deep pressure over all the portions treated with the needle. This treatment has an excellent effect in reducing the inflammation thus taking away the excessive redness so usually seen after such treatments. The finger massage finishes the treatment and then the face may be powdered as usual. Too much emphasis cannot be placed on the importance of this work just described, for whenever these directions are followed good results must ensue. Treatments for obstinate pimples should be given at least three times a week and in addition the subject must be instructed to bathe the body thoroughly once a day, the face for ten minutes with olive soap and hot water each night, rub in the acne creme and take a blood pill before retiring, limit the diet to plainest articles, apply the antiseptic lotion each morning, and if the condition generally is not good, in addition take a tonic recommended by a physician.

The results of acne treatment in the hands of a com-

petent operator are nine times out of ten far more satisfactory than those obtained by a specialist, simply because of the amount of time consumed in giving the treatment and the effort spent in massage, use of the ball electrode, etc. No matter how bad the case, if these rules are followed improvement will positively result.

When the eruptions are very obstinate the needle may have to be used a number of times. In no instance, however. need there be any dread of scarring the skin if care is taken to use but little pressure with the comedone extractor, and just enough current when the electric needle is employed. All authorities are now united in declaring that blackheads must be removed and the contents of the pimples expressed, so if the work is done in such a manner that the surrounding flesh is not bruised, and if the after treatments are faithfully carried out, in a very few weeks the skin will show no signs of the operation beyond a marked improvement. The danger of scarring is not to be feared because if these directions are followed no such result can possibly ensue, though many times this same needle may be used to remove the pit left by an old pimple or by one improperly treated. This process is explained in the section on electricity.

Small pimples in which the pus seems upon the point of bursting out should all be opened and the skin covered with the sheets of cotton soaked in the dioxide, after pressure has removed all of the contents that will come out readily.

In many instances, where the face is covered with pimples and treatments have to be continued for some time, the smaller ones that have not been touched will gradually grow more and more minute and will finally disappear. When this tendency exists, it is, of course, unnecessary to open them.



FIG. 13. Face Cured of Blackheads and Pimples.

Of course, many instances have been quoted where people have been scarred for life. This has been where the instruments have not been properly sterilized or where the patient, unable to keep her fingers away, has so irritated the flesh that the inflammation has persisted for a long time. Pimples opened in the usual manner at home by the aid of a cambric needle, or any other instrument that happens to be about, usually do leave a dull purple scar that takes months to vanish and in some instances may remain permanently. Professionals are so careful in their work and in the use of nourishing ointment on the skin, that after the course of a few days no obtrusive mark is visible, and in two weeks or so the skin is generally smooth, as can be seen in illustration.

The results of these treatments are invariably all that can be expected when the work is properly done and there is no grave disorder of the system. Even where there are other complications the use of these antiseptic preparations on the skin will positively improve it greatly. Ordinarily the statement may be made that every case with no drawbacks in the way of physical disturbances of any importance will be permanently cured. Even after years of neglect the greatest of changes can be made in skins that seem absolutely hopeless by going at the work systematically. In those who are young, and where the disease has not become chronic, improvement is often most marvelous.

Unfortunately for both the masseuse and the patient, they seldom meet until every other method recommended by every authority has been tried. This leaves the masseuse not only with much work to do, but also with more to undo, for frequently the efforts made to abolish the pimples have been the very things that should, under no circumstances, be attempted.

The masseuse who achieves the best results will be she who plainly and honestly explains to her patients the method she uses and who makes them realize that not only her efforts but theirs are necessary if the work is to be successful. She must impress upon them that these afflictions have in a manner become "habits of the skin," and that like other habits, time will be required to correct them. She can make no promises as to the length of time required, for, as in everything else, it is impossible to definitely promise relief by a certain date, owing to the uncertainty in regard to the manner in which the skin takes the treatment. In some instances the improvement in two or three weeks is wonderful; others require a month before much of a change can be seen, and all skins require treatments at intervals for some time, as there is often manifested a tendency to relapse unless the work is continued long enough.

In small towns it is often impossible to find a good masseuse, so in this event it will be necessary for the patient to do the work at home. Of course, the progress is slower than when the treatments can be taken from a professional, as it is nearly impossible to obtain the deep massage except when given by another person. Upon this one thing much hinges, that when there is even the slightest chance to obtain treatments they should be taken in order to obtain the effect of the finger massage on the skin. Extremely difficult cases need at least one hour per day for treatment, lighter cases require, say, two treatments a week or work performed every other day, while ordinary cases may be treated every fourth day until much improvement is manifested. After that time once a week will be sufficient.

CHAPTER VIII.

DIET AND DIRECTIONS FOR HOME WORK IN CURE OF BLACKHEADS.

When work must be done at home without other assistance it must be performed systematically if the results are to be pleasing. One of the most important requisites is in the use of a good cleansing agent, for even after the pores have been freed of the plugs, there is often a tendency toward the formation of new ones. The ointments are twice as efficacious when readily absorbed, hence the cleansing agent must be used frequently and thoroughly to further this end. If the skin is dry, sensitive and easily irritated, it must be cleansed each night with soap practically neutral in reaction. If on the other hand it is not only speckled with blackheads, but appears to be oily and greasy, the tincture of green soap should be used. This is made as follows:

Tincture of green soap:

Green soap	4 ℥
Alcohol	4 ℥
Ether	4 ℥

Dissolve the green soap in the liquids and use by pouring a little into hot water or directly upon the washcloth and then immersing it in water. The cleansing must be religiously done each night and the special creme (acne is the best) should be rubbed in well with the tips of the fingers after this process. In the morning the face may be washed in cold water and the antiseptic lotion applied with

a sponge. If the skin seems unduly irritated by this, the lotion may be diluted by pouring a little into a bottle containing some water. Then gradually the full strength may be used. If the skin appears badly, and the patient feels embarrassed about going out in public the acne creme may be applied and rubbed in well and the vegetable powder dusted over it as a sort of disguise.

This work must be done every night, of course, even when under treatment by a professional, and it will be noticed that the rubbing recommended has a remarkably good effect on these obstinate little eruptions, for very frequently, by applying a little acne creme and then using the ball of the finger for massage with deep pressure, the pimple that is just appearing will be persuaded to depart.

The use of the comedone extractor may be continued as described, and at night before retiring after washing the skin well with the warm water the little scoop may be used by pressing gently at the side of each blackhead and endeavoring to remove as many as possible without producing much inflammation. The automatic massage may be easily used after a little practice and will be valuable in making the improvement more rapid.

The diet is most important and should be closely watched. One of the greatest skin specialists who uses this method of treating his patients and who especially advocates the comedone extractor and the deep massage is also most anxious in regard to the diet adopted. The most difficult cases are placed upon a diet of bread and milk without *too* much bread. Little meat is allowed excepting where the patient is deficient in blood, and the following articles of food are absolutely denied in all cases: Pastries, cakes, rich gravies, salads, liquor, spiced food, fried foods of any

description and all sweets. The articles that seem most difficult to abstain from using are the sweets and pastries. By urging and insisting, fruit may be substituted for these dainties and the effect has been to so change the appetite that the forbidden foods have not been desired.

Constipation must positively be abolished; the woman or girl who expects to look well while in the possession of a torpid liver may as well make up her mind to be disappointed. In addition to the use of laxatives it is well to regulate the bowels by eating as much fruit as possible and also by physical culture exercises, especially those in which these organs may be affected. Drinking a glass or so of warm water a half hour before meals will also be most effective, especially when followed by eating foods that are properly prepared.

Bathing is most important, and a very warm bath should be taken at least three times a week, with a sponge once a day over every portion of the body so that all of the pores may have an opportunity for excreting the effete matter and absorbing the materials applied. When the skin is extremely oily, the bath made by adding rock salt and ammonia to the water may be used with good effect. The liquid sulphur bath, also mentioned in the chapter on bathing, will be found extremely beneficial in cases of this description. Care must be taken, however, in using this bath to wash the face with clear water both before entering and before leaving the bath.

Electricity is equally essential and should be employed as suggested. In case the patient has obstinate pimples that have recurred constantly for months and years after they have been opened and the pus extracted, the cavities should be entered with the needle attached to the negative pole.

This should be done after the pus has been removed excepting in instances where it seems impossible to press out the cheesy matter. In this event, the needle may be inserted several times from different directions until the matter becomes sufficiently affected by the heat to become softer and press out easily. The positive needle is not indicated in this treatment, as the resulting scar is apt to be permanent. After the pimples have disappeared fairly well, and there is a desire to improve the nutrition of the skin, the bipolar method may be used as illustrated and the lotion forced into the skin using a treatment that lasts for about fifteen minutes.

The masseuse will usually obtain better results in the treatment of blackhead and pimple cases than the physician, because she spends more time upon the after treatment. All specialists insist upon the importance of massage as of aid in restoring tone to the skin, but they object to the labor involved, and after opening the pimples and removing the blackheads dismiss the patient with either no massage, or else so little that the effect is not worth mentioning. In this work every detail must be considered and every aid suggested intelligently employed, if the desired effect is to be obtained.

The suggestions outlined here may seem to the casual reader a bit difficult. In reality they are most simple and the refined and sensitive woman who realizes the importance of possessing a clear and attractive skin will most assuredly not object to the amount of labor involved; and, when one contrasts the repulsive and loathsome condition that results from eruptions of this kind made even worse by the presence of innumerable blackheads, no task will seem too arduous if relief can be obtained. The presence of some disgusting disease is invariably thought by the multitude to be

indicated by an eruption of any kind, while the semblance of uncleanliness is so marked that it is impossible to imagine a person so afflicted as really being clean. Actual practice so quickly proves that it is unnecessary to possess these pests, that any one who is sufficiently ambitious will devote every spare moment to the work, sparing no effort to rid herself of the unsightly blemishes which not only disfigure her face but also disturb her peace of mind.

MILIA.

An affliction almost as discouraging as blackheads, although it possesses the distinction of being less repulsive, is that known by the scientists as "milia" from the word "milium" meaning millet seed. This name so aptly describes the appearance of the skin that it is indeed happily chosen for the tiny, hard lumps sometimes yellow and again pearly white, varying in size from a small protuberance to one the size of a large pin head, resemble more nearly than anything else, the appearance of seed scattered over the face. Of course, these same scientific people who have bestowed this appropriate name have spent much time in attempting to find out why this condition exists, and have finally ended by deciding that it is purely a local affair, having little or nothing to do with the condition of the body.

As internal medication seems powerless to affect this condition, it is well to consider the best means of applying the external treatment for each tiny seed, whether embedded in the skin or projecting above the surface is well protected by a singularly tenacious little cap or sac that must be opened by some sharp instrument such as a large needle or the sharp end of the comedone extractor. The lumps must then be pressed out and the cavity thoroughly

cleansed to do away with the chance of any recurrence and the cure will then be permanent.

The face is prepared as in the treatment for blackheads, by the application of a cleansing creme, and the use of warm water and the electrolytic massage. It is then carefully washed again with a one per cent solution of formalin, and the sac opened by a sharp instrument. The small cheesy lump is then teased out, and the cavity entered by a sterilized needle, dipped into a forty per cent solution of chromic acid. The sac is often surprisingly difficult to penetrate, and even after it is opened the milium sometimes remains obstinately attached to the upper surface, requiring the expenditure of much skill in order to dislodge it without injury to the skin. Naturally some discretion is to be exerted in this work, as it is often unwise to remove many of the milia at a time. Experience alone can teach how to judge each individual case according to its peculiarities, how much pressure to exert in coaxing these intruders to depart, and how many to remove at a treatment. Care must be taken to avoid any chance of a local inflammation and sensitive skins will be difficult to work upon long at a time.

In some cases the face will become covered with tiny red scabs, after the milia are removed. These scabs must not be removed but allowed to dry and drop off, thus making the danger of scarring much less. In others, the milia are so small that the use of the needle or knife seems almost impossible. In cases of this description the finest iridio platinum needle attached to the negative pole of the galvanic battery may be inserted in each little lump for a moment, and as a rule the effect is all that can be desired. In very obstinate cases the use of the electric roller is a very excellent supplement to the knife or curette, and treatments may be given every other day.

After treatment consists in using the electrolytic massage with warm water as before, followed by the use of the deep finger massage given the same as in the blackhead treatment. The same ointment, acne creme, is employed with very good success, as the astringent properties are so marked that the places operated upon seem to heal more rapidly when thus worked upon.

In this work as in blackheads the chief requisite is in persistence in a faithful endeavor to follow directions, not occasionally, but as specified. In addition to the local work it is well to bathe frequently in warm water and to exercise methodically.

CHAPTER IX.

TREATING CHLOASMA OR MOTH-PATCH, BY MEANS OF THE INSTANTANEOUS BLEACHING ECORCHEMENT PROCESS.

The appearance of yellowish brown patches upon the face has not only caused much mortification but also the most strenuous efforts to banish. These so-called moth or liver patches not only appear upon the cheeks, forehead, upper part of the lip and neck, but are also found on various sections of the body, and although for many years said to have been caused by either a nervous or functional disease, they very frequently appear without the least apparent reason and remain quite as obstinately as those that are caused by disease. Many patches of this description either precede or accompany physical disturbances, also remaining long after the cause has disappeared, thus making local treatment a necessity, if relief is to be obtained.

The coloring matter is, as explained in a previous chapter, situated in the rete malpighii and also to some extent in the corium, both deeper layers of the skin. The applications of powerful remedies for the purpose of bleaching the skin have, instead of curing the trouble, augmented it by causing an inflammation which has resulted in an increased deposit of pigment at this spot, lasting during the lifetime and impossible to remove.

If the application of such remedies had been continued only until redness appeared no such trouble would have occurred. Hence in treating any such difficulty care must be taken to warn the patients against a too vigorous use of a remedy in an effort to become beautiful immediately.

In all external treatment of course, the object is to have the material employed absorbed as quickly as possible and to have it so well prepared that the work shall be directed particularly to the affected portions. To assist in this process of absorption it is necessary that the skin should be in the most cleanly condition and this is only possible when baths are taken frequently and the pores are kept free from obstructions. The average person has about fourteen square feet of skin to keep clean, and in this surface are approximately 2,000,000 sweat glands and 500,000 oil or sebaceous glands to assist in throwing off the waste matter. The daily bath will thus be seen to be a common necessity if the skin is to be kept as it should be.

In addition to this daily bath, it will also be necessary to prescribe some method of aiding the patient to thoroughly cleanse the system of all impurities, and for this purpose it is well to advise the use of copious draughts of water between the meals. Eight and ten glasses are none too many to be taken during the day, with more at night and in the morning before breakfast a good mineral water may also be taken with excellent effect. In connection with this work it will also be well to flush the colon at least twice a week by means of injections of hot water, for in addition to the cleansing of this important reservoir, the use of the water stimulates the functions and nerve centres of all the organs in contact with the colon.

In every case in which the subject admits the presence of constipation, this procedure is a necessity, while in the cases in which no such admission is made the treatment will at least do no harm and should therefore be advocated wherever chloasma is found. In fact the mere statement that no constipation exists is no sign at all that impacted



FIG. 14. Bleaching Skin by means of Antiseptic Lotion applied with Negative Carbon Electrode.

foeces may not be found, for in some of the most obstinate cases of costiveness such statements are not uncommon.

It must be remembered that the colon is not only a reservoir but is also largely endowed with absorbent glands, and that these glands are capable of taking up and carrying through the circulation, the poisons contained in it. These properties of the colon can also be used for nourishing the system and so it is often called the "second stomach," as in cases in which people with cancer of this organ have been unable to take any food by way of the mouth sometimes not being able even to swallow a drop of water, they may be kept alive for days and even weeks by food properly prepared and injected into the colon.

So, when one finds a subject with dull eyes, yellow skin and furred tongue, this cleansing treatment of the colon must be insisted upon, for in this way alone can one avoid having poison from the fecal matter absorbed from the colon and carried to the skin, lungs and in fact every organ of the body.

Flushing the colon, however, differs from the ordinary injection, inasmuch as the object is to carry the heated water far up into this reservoir and have it retained as long as possible in order to thoroughly soften any of the hardened fecal masses and thus cause a cleansing of the whole canal. When this result cannot be accomplished by the means of the ordinary rectal tube, the long flexible tubes should be obtained and in this manner the water may be carried directly into the sigmoid flexure. Several trials may be necessary before this process can be done successfully, but as the results will show a marked improvement almost immediately after such treatments in both health and appearance, the subject is usually sufficiently stimulated



FIG. 15. Use of Light for forcing Whitening Creme into the Deeper Tissues of the Skin.

to continue her efforts until she understands the best method of performing this task.

For local treatments of the skin not only the ordinary massage but also the instantaneous bleaching process and also the ecorchement system may be used.

Instantaneous bleaching, as it is called, consists in making the skin from four to six shades lighter in one treatment by means of this process. First of all the lettuce creme is applied and allowed to remain for a few moments. It is then removed by means of soft bits of cloth or cotton, and the skin thoroughly washed with a strong solution of soda in order to remove any signs of oil. A paste is then made by adding to the refining powder some dioxide of hydrogen, and this is spread over the face and neck and allowed to dry. If one wishes the arms bleached or wishes to make the shoulders more presentable for an evening party, the process may be continued over all of the surface. As the paste drys a pricking burning sensation sometimes is felt. This is usually due to the action of the dioxide, and in very sensitive subjects has been known to make the face appear red and blotchy for a day or so though afterward it looks much better. However, it is well to ascertain the condition of the skin before applying the paste and then if it is very sensitive dilute the dioxide with witch hazel before applying it.

After the paste has become thoroughly dry it may be removed by washing the skin with luke-warm water, and then if the patches on the face or neck are very deep, the bleaching lotion may be forced into the skin by means of the negative electrode, as shown in Figure 14 continuing the process until the skin is thoroughly reddened. This process, it should be understood, is only used for moth



FIG. 16. Removing Marks and old Cuticle in bad Case of Chloasma after Ecorchement Process.

patch or chloasma, and would not be used in the ordinary treatment at all. Whether the lotion is used or not, however, the next step is the same and this consists, as shown in Figure 15 of forcing the whitening creme into the deeper tissues by means of the use of the red light of the radio bell. The eyes are better covered with cotton moistened in cold water or witch hazel, while this work is going on, in order to avoid any irritation.

After the skin has been sufficiently absorbed, finger massage may be given in the usual way and the treatment finished by applying a protecting coat of the vegetable powder. This process may be repeated several times a week with the greatest of benefit, though if the use of the paste seems at any time too severe, the use of the regular massage and a prolonged treatment with the negative electrode and the bleaching lotion may be effective.

The ecorchement system is a popular and effective method in removing the cuticle and thus refining the skin. Many people profess to believe that this process is a remedy for all the ills of the skin. Properly used, however, it is better after other treatments have been given for some time. As this particular form of treatment is not at all dangerous nor painful to the subject, it naturally has received a great deal of attention as well as commendation and may be recommended for the following troubles:—for refining the skin after a severe case of blackheads and pimples, for whitening and removing most of the wrinkles in ordinary skins, for making the skin wonderfully better in cases of obstinate chloasma, in fact, practically removing every vestige of this trouble and finally of most remarkable benefit in the treatment of eczema for which indeed it is almost a specific.



FIG. 17. Skin Free from any Mark of Chloasma.

In the subject illustrated for bleaching treatments after a prolonged use of the negative electrode and massage, the ecorchement system was finally tried with best results. In Figure 16 the manner of removing the old skin and the mask is shown, while in Figure 17 the skin after treatment is exhibited.

The process is performed as follows:—Each day for from five to seven days, a searching, antiseptic ointment is rubbed onto the skin and forced in with the blue light. The applications are made with cotton to prevent staining the finger-tips of the operator. After a few days the skin begins to assume a parchment-like appearance and becomes dry and leathery. As soon as this appearance is uniform, a number of coats of a liquid preparation must be painted on and allowed to dry until it forms a complete mask. After a number of days this mask begins to crack and then the old skin and the mask may be peeled off as shown in the Figure 16, leaving a perfectly formed new skin beneath. Neither the peeling process nor the application of the ointment nor the wearing of the mask will be found at all painful, but the results will certainly be all that one could desire. Hence, as the only disagreeable feature is the enforced seclusion for a matter of a week or ten days, the process does not possess many terrors for the truly ambitious soul who is determined to look her best.

It is true that this last process is not always necessary nor desirable for the other treatments, though milder, will nearly always perform the work effectively. However, as it is a good process it is well to know of it, for any discoloration of the skin that assumes the proportions shown in Figure 16 is certainly worthy of systematic effort to displace and remove it.

A wise man once declared, after gazing on the representations of women who had made history, that notwithstanding her ability, he was sufficiently convinced of the power of beauty to wager that "if Cleopatra's nose had been a little shorter, it would have changed the history of the world." With this as a hint of what wise men believe, it may be well to remember that very likely none of these famous beauties ever were perturbed by the presence of chloasma, and that none of our modern beauties can hope to deserve the title unless they persevere in their efforts to procure and retain that most desirable of possessions—a clear, smooth and healthy complexion.

CHAPTER X.

OILY, STIPPLED, AND SALLOW SKINS.

One of the most disagreeable and trying afflictions is the condition commonly described as an "oily skin." The greased and shining appearance is so marked that nothing can conceal it. Drops of oil stand out in place of the ordinary perspiration and the victim is frequently so mortified that she dreads appearing in society, as the slightest exertion causes this sebaceous secretion to be poured out like an oily coating on the face and scalp and in some instances upon the entire body.

The ducts of the sebaceous follicles are generally plugged with comedones and the surface of the skin frequently appears pallid and poorly nourished. The treatment should be directed not only to the care of the face and scalp but also to the proper care of the entire body, and the diet as well as daily bath must be made matters of much importance.

The lettuce creme may be applied most liberally before using this massage treatment in these instances, as the unguent possesses great cleansing qualities. When, after a few moments it is rubbed off, the amount of dirt that is found on the towel will be found to be surprisingly great, for the oily skin will naturally attract much soot and dust from the air. In some instances it is even advisable to repeat the application and thus cleanse the skin as thoroughly as possible before using the massage. In this event the solution of soda may be used in just twice the proportion and hence to every bag of water, one cup of this mixture

may be added as the alkaline mixture possesses the same cleansing qualities exhibited by a mild soap. The water may be applied as warm as possible and if the face is extremely oily the first treatment may be prolonged to some extent.

The work has much better results where the treatments may be taken at least two or three times a week, for the first two weeks. After this time once a week will be sufficient. It is especially necessary to restore tone to the skin and for this purpose the manipulation is extremely beneficial.

The diet should be limited to simply nourishing foods and all oily articles resolutely cut out. No sweets or fats or pastries should be eaten, but the fresh vegetables, broiled or roasted meats, and fruits may be eaten in abundance. The warm bath should be taken daily, and if the entire body has this oily appearance it is well to add to the bath one cup of soda and one of salt, allowing the entire body to be immersed in the water for some few moments and then using the shower with clear water.

Treatment of the face at home will consist in washing it with warm water and a mild soap each night, the olive soap being particularly fine in such instances. Then acne creme may be rubbed in well until every particle has been absorbed. In the morning cold water with no soap should be used on the face and the lotion applied immediately afterward.

The results of this treatment generally become manifest in a very short time and improvement will not only become more marked each day but a cure will result if sufficient patience is exercised. Of course, where this tendency exists it is always well to watch the diet carefully

and in all cases bathing daily will naturally be a part of the life.

Stippled skins looking as though the faces had been used formerly for the purpose of a pin-cushion, are also usually found in connection with an oily condition of the skin. In some instances these large pores have been caused by long neglected or chronic cases of blackheads and pimples and in such instances the insertion of the negative needle for a time will do much toward helping cleanse the cavity and stimulate the skin. Sometimes this alone will make the opening smaller. When, however, such is not the case, then the positive current, attached to a *pure gold* needle (thus leaving no sign of oxidation) can be used with most excellent effect.

For generally improving the condition and making the skin look more refined the same mask described in the chapter on chloasma, made by mixing refining powder with dioxide, can be used to great advantage.

SALLOW AND MUDDY SKINS.

Why people in perfect health should have complexions that resemble russet leather is one of the puzzling problems that all of us meet occasionally. Yet, there is rarely a day that one cannot see a woman who might make a fine appearance were it not for the sallow hues that make almost any color absolutely impossible. Cases of this kind may be wonderfully benefited by systematic work, but to be effective it must be impressed upon the mind of the patient that as the skin seems to have this tendency naturally, the daily effort will therefore need to be systematic and persistent if the skin is to be kept in a good condition.

Complexions of this kind do not need a skin food. It

is not powerful enough to bleach the skin and will therefore be superfluous, unless there are lines to rub out, in which instance, of course, it may be used in connection with the whitening and bleaching creme. The masseuse generally has a difficult customer to meet in the person of the woman with a complexion that has been obdurate to treatment. Discouraged and disheartened by past failures she demands a positive improvement immediately, or she will not attempt the work. The first treatment is therefore a matter of much importance both to the masseuse and to the patient.

If the skin appears not only sallow but muddy and even at a hasty glance as though it needed a good washing, instead of using the lettuce creme as a preliminary to the treatment it is well to wash the face thoroughly with soap and water and then rinse it off with water to which a little borax has been added. Then the undiluted dioxide of hydrogen may be mixed with the refining powder until a paste is made and this paste spread over the skin and allowed to dry. This may then be washed off with luke-warm water and the whitening creme used for massage after forcing it in with the red light of the radio bell.

When the process can be repeated several times a week, or in very bad cases, even applied each night by the subject the skin soon begins to look dry and rough and commences scaling off. The new skin is invariably fine and better, and so the process is quite often used for this purpose.

As the sallow and muddy appearance is often caused by exposure to the air, it is well to advise a protecting coat of powder before going out. This precaution will frequently keep the skin from acquiring the unbecoming color in the spring and fall.

The home treatment will, of course, be recommended as consisting of the daily bath, plain food, and in many instances a good course in physical culture is especially beneficial, and the flushing of the colon as recommended in chapter of chloasma. The whitening creme may be used each night after cleansing the skin thoroughly with soap and water and the bleaching lotion should be applied in the morning and again at noon if the face is in bad condition. If the skin seems to need a thorough bleaching it may be done without injuring the cuticle by simply applying the lotion twice a day and omitting the creme at night for a time. When the face begins to get rough again omit the lotion and resume the creme for a day or two. Continue this until the skin is sufficiently whitened. More rapid bleaching results may be obtained by applying the lotion by means of the battery.

In connection with the subject of bleaching it is well to explain that it is unnecessary to remove the cuticle in this process. Quite as good work can be done by systematic use of the massage and lotion and creme, and the results will be far better, for all those who have undergone the process of having the cuticle removed must also use most exquisite care of the skin for months afterward, as otherwise it will tan and peel and become utterly unmanageable. The process itself is not so complicated that it cannot be easily done, but the results are unsatisfactory and not to be commended. The skin of the face and neck may not only be bleached light enough to satisfy any one, but may even be made whiter than the skin of the body by using the materials recommended and being careful to protect with powder when going into the air. By applying a creme whenever the face gets at all rough and by discontinuing

the lotion there will be no trouble with an irritated surface, no weeks of seclusion and months of care spent in protecting a sensitive skin, but instead a clear, fresh complexion in a healthy condition.

The coarse pores and rough appearance frequently found with muddy complexions will in nearly every instance yield speedily to the methods described, thus making the appearance far more refined, for no woman can appear to good advantage if the complexion does not bear inspection.

L OF C.

CHAPTER XI.

SCALY, DRY AND FLABBY SKINS.

Fortunately for the majority of womankind, there are comparatively few who are troubled with abnormally dry or rough skins. In a few instances this trouble has appeared in every member of a family, and from infancy, upon any exposure to the air, the skin would immediately look as though some strong irritant had been applied. Tiny scales would flake off in great profusion and the skin appear tight and drawn, with hundreds of tiny lines covering the surface as though acting the part of forerunners for wrinkles. A number of people have acquired this tendency after a severe nervous strain or upon recovering from an illness.

The face frequently burns and smarts and when washed becomes red and inflamed, any application of soap making the condition much worse. No powder can be applied to protect the face, and even the slightest exposure always means an increased amount of trouble; the cases seem hopeless indeed.

The use of the automatic massage is in many instances absolutely impossible, while in others it may in time so harden the skin that the trouble becomes much less than before.

When the skin is abnormally sensitive the following method will be found extremely beneficial. The face and neck may be coated well with lettuce creme, and then warm cloths applied, using them as warm as can be borne with comfort. This process may be contined until the flesh be-

comes uniformly pink, when the superfluous creme may be removed by drawing the softest towels gently over the surface. Then an application of tissue food can be used and the regular finger massage may be given.

Occasionally one finds a case in which the use of water at any time is actually impossible, as it produces a roughness immediately. In every instance such as this an oil must be used for cleansing the skin, instead of soap and water, and to get the best results it should be used as warm as possible.

In cases of this description the lettuce creme may be used for cleansing, omitting the use of water altogether. The tissue food or the whitening creme may be used for massage and may be forced into the skin by means of the red light of the radio bell. When the skin is so dry and scaly and rough that nothing seems to benefit it, the wearing of a rubber mask after the application of tissue food each night will soon be seen to have a remarkably softening effect. In nearly all eczematous conditions the use of a mask of this description often without any application of oil used in conjunction has been found most advantageous and has been recommended by some of the very best medical authorities.

Complexions of this description need constant care to keep them in good condition, and women who are so afflicted should make up their minds to submit cheerfully to the inevitable in the shape of constant and frequent applications of oils and skin foods in order to keep the skin smooth. The fact that other people use an application of this kind once a day or once in two days should be no guide to the work, for every woman must study her own needs and fulfil them according to the peculiarities of her complexion, regardless of what other people advise.

FLABBY AND WITHERED SKINS.

On many occasions young women have presented themselves for treatment with skins that looked as though they belonged to women of seventy. In nearly every instance the beginning of the trouble could be traced to some severe illness or protracted strain or nervous occupation. Returning health seemingly does not affect the appearance of the skin in such instances, and hence much work is necessary, especially in the line of tonic treatments.

The use of the electrolytic massage is here most valuable and should be used every day if possible, or the treatments may be arranged as near together as conditions permit. Salt will be used in the warm water followed by much finger massage while at least two bags of cold water to which alum has been added will be found necessary for each treatment. In all cases of this description it is well to use the faradic current with the cold water and alum on account of the stimulating action it imparts to the skin. When the flabby condition has resulted from the use of steaming or frequent applications of hot towels more work is necessary before the desired results can be obtained. In any event it will require at least six weeks' or two months' work to give the skin its normal appearance.

In the meantime the diet and manner of living must be considered also. Cold sponge baths should be taken each morning; a regular course of exercise should be adopted and practiced and all manner of nourishing foods eaten, while pastry, sweets and other indigestible condiments must be strictly prohibited.

Where one is compelled to do this work at home the same general rules may be followed with great success, and as nothing but sufficient practice is needed to make the use

of the cup possible, no one need feel that her case is hopeless because she is debarred from the privilege of employing an expert in this line.

The use of the galvanic current may be alternated with that of the faradic if the patient desires, or it may be continued to the close of the period. Although this treatment is mentioned particularly for younger people, it also does great things for those who are older and as a consequence many of the elderly women who have pride in their appearance take these treatments regularly, as the effect is so beneficial.

CHAPTER XII.

HOW TO REMOVE FRECKLES, TAN AND SUNBURN.

The freckled maiden may have Titian hair and brilliant coloring and dewey eyes with long black lashes, but if her complexion is as spotted as the guinea hen's her beauty is marred indeed. The pigment spots, as in the case of moth patches, are situated in the deeper layers of the skin, and are almost invariably made more pronounced by exposure to the sun and air.

As a rule, those afflicted with freckles have unusually fine skins, and when free from these discolorations the complexions generally far outshine the ordinary type. In almost every case most wonderful improvement may be made by adopting the best method of caring for the skin, and clinging to it until the freckles have vanished. The most difficult part to learn is that of constantly protecting the skin from the influence of the sun and air, as even two or three hours' exposure without proper protection will almost invariably result in a fresh crop of brown spots. In some instances the effect of the heat and light, even when kept away by thicknesses of cloth, is sufficient to freckle the arms and neck.

The treatment of lentigo or freckles is limited to the use of some form of treatment that shall protect the skin from the sun and air and also to the use of strongly bleaching lotions and ointments. Fox advocates touching each freckle with a minute drop of carbolic acid by means of a tiny bit of cotton wound around a wooden toothpick. He declares that although the immediate effect will

be to whiten the spots and that in a day the spots will be darker than ever that after a few days the epidermis destroyed by the acid will have fallen off in the shape of thin crusts and nothing but a pinkish hue will be left in their stead.

This treatment has the disadvantage, however, of causing quite an unpleasant burning and can hardly be recommended to the average operator.

Hardaway recommends touching each spot with an electric needle, and in many instances this plan has been most successful. Ordinarily, however, it will be found that the bleaching process recommended for the treatment of chloasma, in Chapter IX, will be most efficient, always remembering that it is not alone sufficient to remove the freckles but that it is also necessary to use sufficient precautions to protect the skin against their return. The freckled subject should therefore never venture out without a protecting coat of powder and whenever possible should wear a broad-brimmed hat as a protection.

Work at home consists in using olive soap each night with warm water, and then massaging well with whitening creme before retiring. In the morning nothing but cold water should be used and no soaps should be employed at this time. Immediately after drying the skin, the bleaching lotion may be employed by using a small sponge and thoroughly saturating it before applying. If the lotion is too severe it may be diluted as required by pouring out a small quantity and adding the same amount of water to it. The friction at night by means of massage with the finger-tips is most important and should not be discontinued until the freckles have entirely disappeared. Even then the whitening creme should at least be employed alternately with a

skin food, using one or the other each night, and always applying a good powder before exposure to the air.

The most obstinate cases of freckles can always be made much lighter by this process while ordinary varieties may be cured in a very short time. Of course, severe or dark freckles require much more work and it is because of them that so many women insist upon undergoing the "peeling process" each year. It is not necessary to remove the cuticle, as so many declare, though to thoroughly bleach the skin may, of course, irritate it to some extent. Those who wish to attempt it may use the articles advised and the galvanic treatment as well, discontinuing the use of the lotion when the face becomes decidedly red. No freckles can be kept in subjection without work. Those who have them must remember that this tendency is inborn and must be watched and guarded against the same as other blemishes of this kind. In some instances, as people grow older, this inclination or tendency seems less marked, and frequently the skin becomes free from spots, from no particular reason. The majority of sufferers, however, need to use constant care to prevent acquiring more freckles as well as to aid in getting rid of the old ones. In all of this work the habit of protecting the skin is the most important and care should be taken to avoid washing the face either just before or just after exposure to the air. The best manner to use a powder is to apply it after a skin food has been rubbed in well, and in order to make it effective care must be taken to see that the powder is one that will cling to the skin well. No ambitious woman will be deterred from this work by the fact that she must be constant in her attentions, for she knows all good results require much and untiring application.

TAN.

The bronze coloring has been so popular for the past few years that some of the faddists have spent much time in acquiring a coating, that cost many dollars to remove. The desire to look weather-worn can usually be easily accomplished, for few pepole need more encouragement than an occasional outing on the river or driving through the country with no protection to the skin in the way of head covering or even a coat of powder. Once obtained it is extremely difficult to remove, and very frequently a thorough bleaching must be undergone before the brown shades vanish sufficiently to make the face presentable if light colors are to be worn.

That there is no necessity for acquiring this coloring may be seen by the scores of enthusiasts who spend much time on the golf links or boating with none of the added tints so undesirable in the majority of cases. The care of the skin necessary in preventing such complications is practically the same as in freckles, and cremes and powders must be used liberally as directed if the skin is to be kept free from defects. It is well to avoid the use of much water on the skin when out in the air a great deal, using a cleansing creme of some kind instead of water. The whitening creme should be used religiously each night and the creme celeste may be employed as a sort of skin food before using the powder, or the tissue food may be used for that purpose. If one is desirous of trying a few of the home-made concoctions, the strawberry paste and cream may be applied for the purpose of removing the tan. The recipes appear in the chapter on the making of creams, and are extremely effective when carefully prepared.

SUNBURN.

Sunburn is generally dreaded by those who suffer from it, not only because it is particularly unbecoming, but also on account of the actual discomfort and pain suffered by those unfortunate enough to be afflicted. In reality, there are few things easier to avoid than this very trouble, as hundreds of people who have become enlightened can cheerfully testify. The same general rules applying to the protection of the face in preventing tan and freckles also apply here. Where there is evinced a decided tendency to burn on the slightest exposure, it is best to use no water upon the face for days at a time, instead using the cleansing creme during the day and the tissue food or creme celeste at night. If much time is spent upon the water, the care should be redoubled, as it seems particularly difficult to avoid burning when subjected to the strong glare of the sun, and the reflection back from the water.

If one has been unfortunate enough to incur a severe burn the treatment is simple, and consists of applying the most soothing ointments until the skin is again in a normal condition. If it is impossible to obtain any of the articles mentioned, it may be remembered that any good cold creme or pure oil may be used. If almond oil is not to be secured, olive oil may be applied, and if in an emergency the powder has been lost or mislaid the best substitute is found in pure household cornstarch. This simple remedy dusted on inflamed surfaces proves to be very soothing and will greatly assist in the work of reducing the inflammation. The warm oil mixture under the treatment of scaly skins may also be used for cleansing the face during the day, though the other articles are usually amply sufficient for any case. Properly managed, the most sensitive skin

may be kept from burning, no matter how great the exposure may be. The exceptions to this statement are found only where, either from indolence or ignorance, sufficient care has not been taken to insure a thorough protection from the sun.

CHAPTER XIII.

THE USE OF POWDER.

For some mysterious reason women who are otherwise well informed have exhibited a most unreasonable prejudice against the use of powder. They gaze upon the innocent puff with horror and flee from the attractively labeled box containing this cosmetic as though it were also marked "dangerous." When some of these fastidious souls are questioned as to a good substitute, the answer is almost invariably the same and one hears talcum recommended vigorously. A distinction without a difference and one that makes the average woman chuckle, for she has tried the same thing and knows that talcum as a protection is useless.

If the antiquity of the custom could make it more commendable nothing more would be needed, for the ancient volumes are filled with references to the use of cosmetics, and specially to those used for the purpose of concealing imperfections of the skin. In fact, Job's third daughter was named Keren-Happuch, meaning horn of paint (Job. 42: 14), indicating rather plainly that there must have been some degree of favor shown this particular cosmetic in one household.

Returning to more modern times, it is refreshing to learn that nearly all men have been wise enough to realize how necessary the use of powder is as a protection to the skin, and as a consequence the barbers insist upon powdering the faces of their customers immediately after shaving them, thus avoiding the danger of irritation from the sun or air. For the purpose of protection the powder must be

of a variety that will adhere well and smoothly, otherwise the face will appear scaly and rough and give the impression of being coated with the material used.

A pure vegetable powder is thus in great demand, for, in addition to the office of protection, the fastidious woman insists that it shall possess the very desirable quality of harmlessness, and this is not possible when any of the well-known heavy, white mineral substances are employed. Rice flour, though much quoted, is rarely used, as it is difficult to procure, and hence either one of the many starches made from corn, wheat or beans is usually employed as a basis for a mixture of this kind. The ideal powder cannot be made by the amateur or the ordinary manufacturer, as the process is so complicated that it requires a most elaborate outfit to produce the cosmetic properly, as in the many different siftings not only many varieties of bolting cloth and the employment of people who understand the work, but also the presence of a competent chemist as well. Of course, there are many formulæ extolled, but the one in greatest favor demands the use of the finest and purest almond powder, orris powder, wheat starch and rice starch, sifted through bolting cloth several times, then tinted and perfumed and blended with a most delicate oil into a mixture not only soft and fine, but also possessing the quality of sticking on the skin as well. The sifting process is what really makes the powder—making a work much beyond the reach of the ambitious amateur owing to the expense of the different grades of bolting cloth required, varying from the ordinary mesh to the very finest. It is said that the best powder is sifted at least seven times. The tinting, too, is a matter of some consequence, and as there is never a skin that is positively white, the well-made powder should as

closely as possible simulate the colors observed. The application of a pure, white powder to the ordinary skin makes it look as though it were coated with something like whitewash, the dark-colored portions showing through in a bluish shade, presenting a most unnatural appearance. The color most popular for use on all skin is that termed "flesh" and is made by adding traces of carmine, or carmine and ochre to the white materials until a peculiar chamois tint is produced.

Powder should always be applied before venturing into the air, and especially when about to embark upon a boating, driving or any other expedition. The most practical manner of applying it is to first rub on some skin food and after a few moments remove all the oil that may be found upon the skin, then dust on the powder with a soft bit of cotton cloth, and remove all that does not cling well by rubbing a dry cloth over the face. In this manner the roughness, burning and irritation generally following upon exposure to the sun may be avoided and the skin kept smooth and fresh. Coats of tan are much more easily acquired than lost, and the girl who values her appearance will endeavor to preserve the most precious of possessions—a good complexion—while protecting a poor one from further defects.

A pleasing and fragrant mixture that may be used after the bath for the purpose of preventing the disagreeable odor from perspiration from being noticed is made by mixing these ingredients together:

POWDER FOR USE AFTER BATHING.

Powdered orris root .....4 ℥
Boracic acid (powdered).....1 ℥
Sub-nitrate bismuth .....1 ℥
Corn starch .....4 ℥



FIG. 18. Showing Result of Accentuating Features by Use of Eyebrow Pencil.

Those who are anxious to try mixing powder that, though not purely vegetable, is still uninjurious, may try the following recipe, said to have belonged to a collection made by the famous Catherine De Medici, who was almost as much envied for her knowledge of the cosmetic art as she was hated for her attempts to rid the world of those she disliked:

Best Venetian talc .....4 ℥
Sulphate barium .....5 ℥
Corn starch .....4 ℥
Rice flour .....2 ℥

Sift all together through a coarse sieve, several times, so that the lumps in the barium sulphate may be broken up. Then add one-half ounce of lanolin and one ounce of almond oil and sift again. Add to these ingredients sufficient carmine and ochre to make the tint a soft tan and sift through three grades of bolting cloth before adding the perfume, which may be either oil of rose, nerolli or any other odor desired. The next four siftings will be necessary in order to make the powder fine enough to use on the face.

A powder for which there is much demand is that made by mixing one of these strongly white ingredients with water and thus making a so-called "liquid powder." Although useful for the neck and arms when unsightly blotches or redness prevent making a good appearance, the application upon the face should be made most sparingly lest the skin be made dry and scaly.

LIQUID COSMETIC.

Oxide of zinc .....1 ℥
Barium sulphate .....1 ℥
Glycerine .....1 ℥
Alcohol .....1 ℥
Water .....6 ℥
Cologne ..... ½ ℥

Mix thoroughly and strain through cotton or fine bolting cloth. Keep in a tightly corked bottle and apply with a sponge when required.

Equal in importance to the proper application of the powder is the manner of removing it, and if the skin is to be kept in a thoroughly fine condition the powder must positively be removed by a thorough cleansing each night. The most harmless substances may cause a great deal of trouble unless this precaution is observed. When traveling, a cleansing creme will remove the dust and the powder quite as effectively as soap and water. On other occasions the ordinary means may be employed. The respect with which this cosmetic is held by some people may well be estimated by the very general use it enjoys, for it is said of the modern maid that—

She may live without love, never owning a heart,
She may live without music, and drama and art;
She may live without having a sin to confess,
With a calm disregard for new hats or a dress;
She may live without rarebit or lobster or chowder,
But where is the maid who can live without powder?

CHAPTER XIV.

HINTS ON BATHING AND THE USE OF SOAP.

To the ordinary mortal the bath is a matter of routine, to be taken at regular intervals for the purpose of cleansing the body. That it may have far-reaching results in the way of relieving certain conditions or of remedying grave defects of the skin, many are unwilling to believe. However, it is not necessary to convert, for just a little insistence in the way of prescribing the bath will soon bear speedy results.

The educated bather, and by that is meant the woman who understands just what benefits may be derived from the proper use of the bath, has her daily plunge into lukewarm water, followed by the cold sponge. In addition to this there is the warm bath, taken at least twice a week, at a temperature sufficiently high to induce vigorous perspiration. If possible, one of these baths should be either a Russian or Turkish bath, followed by massage given by an experienced operator. The results of this system of bathing may be seen in the clear skin and youthful appearance of the devotee to cleanliness. Her figure, too, bears testimony to the fact that rarely does superfluous flesh persist when the pores are kept free from obstructions and the body maintained in an absolutely active condition.

Of course, there are numerous methods of taking baths and many improvements on the plain bath, all of which will be considered in order of importance. The first consideration is naturally the kind of water that must be used for the purpose. If this is extremely hard, making the skin

feel peculiarly sensitive and irritated afterward, it will be well to make use of the following formulæ, mixing the ingredients and keeping a large supply on hand constantly, so that the effort may be systematically conducted: Borax, one pound; aromatic spirits of ammonia, one pound; soda, one pound. Mix together and keep in a mason fruit jar, using one cup of the mixture for the ordinary tub bath. Then in lieu of a washcloth nothing can be better, both for the effect on the skin and for the pleasure of using it, than the bran mitten. This is made by cutting out a piece of cheesecloth into a six-inch square. These squares may then be stitched together, leaving only a small opening at one end in which to put the bran. When filled comfortably—that is, just enough to make the mitten about three-quarters of an inch in thickness—the opening may be closed and the mitten is ready for use. The benefit from the bran is supposed to come from the gluten in it, which strengthens and softens the tissues. The warm water, of course, assists in this process. In a bath of this kind no soap is necessary to assist in the cleaning process, as the bran is sufficient. If the skin is at all sensitive after leaving the bath, showing a tendency to peel and flake off, nothing can be better to use for anointing the entire body than the following preparation, made easily by observing the directions:

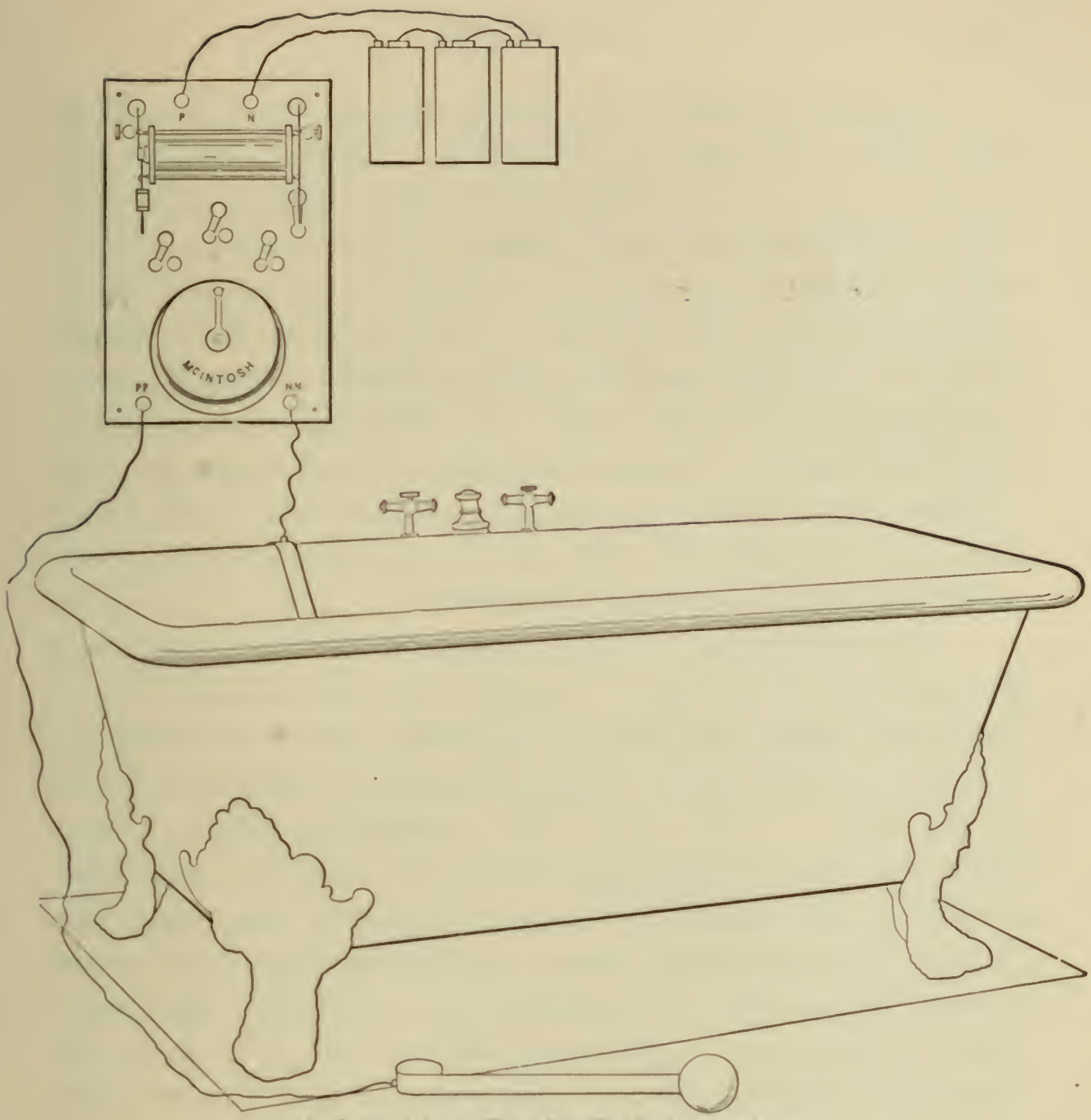
Gum tragacanth ..... 1 ʒ
Borax ..... 1 ʒ
Glycerine ..... 2 ʒ
Alcohol ..... 2 ʒ
Water enough to make a thick jelly.
Powdered orris root ..... 2 ʒ

Dissolve the gum tragacanth in enough water to make it thoroughly transparent and then add the glycerine and

alcohol. More water may then be added as necessary, using the orris powder last of all. This mixture is generally named jelly of violets and has the advantage of drying in almost immediately, thus obviating all danger of producing a sticky feeling. In addition to the use of this jelly after bathing it is often necessary to anoint the body with a good creme before entering the bath. In this case Creme Celeste will be found extremely beneficial.

People troubled with eruptive diseases of the skin or obstinate comedones are much benefited by the sulphur baths. When it is impossible to take baths of this kind excepting at home, the method may be made extremely easy by purchasing a bottle of the liquid sulphume. There is said to be enough in one of these bottles for eight baths. The best way to use this substance is to pour the amount required into the water that is about body-temperature, and then after entering the bath, have a sheet drawn over the tub and up closely around the neck of the bather. The warm water may then be added until the bath is as hot as can be taken with any comfort. This will usually induce a copious perspiration. Before entering a sulphur bath, the face and neck should be carefully washed with clear, warm water, and after leaving the bath the same precaution should be observed.

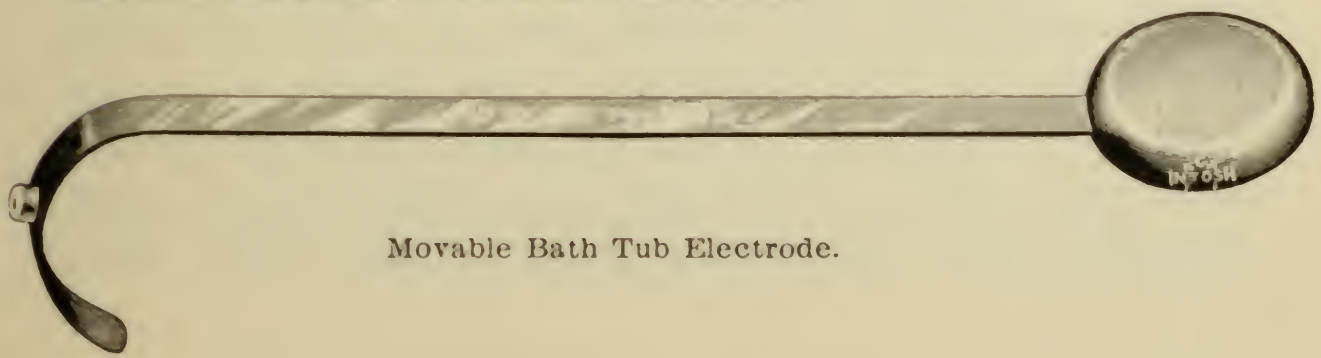
Nervous temperaments are wonderfully benefited by means of the electric bath, and so great is said to be the curative effects of these baths that in many instances most stubborn cases have been improved rapidly by the proper amount of bathing. This fact should be of especial interest to the many who are afflicted with the brown discoloration termed "moth patch," for it is said that many of these most obstinate and disfiguring spots may be much assisted by this process.



A Convenient Faradic Bath Apparatus.

Diagram Showing Bath Tub with Movable Electrodes connected to Switch Board. A maximum of convenience and efficiency at a minimum of expense.

It may be used in any bath room in connection with any porcelain or porcelain lined iron tub, the movable bath tub electrodes being placed in any desired position on opposite sides or ends of the tub, thus permitting application of the current to any portion of the body of the patient.



Movable Bath Tub Electrode.

When the effect of friction is desired from the use of bran baths, this may be obtained by adding a peck of the ordinary bran to the warm bath, and rubbing the body vigorously with the hands. Some people prefer to use oat meal in the bath, claiming that the effect is even better, while still others assert that common rock salt added to the water in large quantities and then used to produce a decided glow is the best of all. Of course, the difference in action between salt and a substance containing gluten is too great to admit of any comparison. Hence those who prefer salt baths may use them for the purpose of stimulation, but not with the idea of softening the skin.

The temperature at which the water should be used may be regulated according to the effect desired. In baths near the body temperature the perspiration ceases, no sweat is secreted, but instead the fluid generally excreted is retained in the skin. Warm baths have a relaxing effect. They dilate the blood-vessels and cause an abundant excretion of fluid. Cold baths harden the skin and have much influence in accustoming one to low temperature, but do not cleanse the skin to any extent, while in addition they produce a shock not either agreeable or safe for those of weakened constitutions. A safe rule to adopt in order to avoid the danger of catching cold, or of becoming at all weakened by warm baths, is that of using a cold sponge immediately afterward, thus uniting the methods in a way that is sure to be beneficial.

In connection with bathing, the use of the best soap is a matter of much importance. And, strange as it may seem, not one person in a hundred seems to realize what a good soap really is. The majority of people long for soaps producing great quantities of lather. Others insist upon

finely perfumed articles and pay exorbitant prices for daintily scented packages. Wise people cling to the mild olive soap that is nearly neutral in reaction.

The harm done by some of the strongly alkaline soaps can hardly be overestimated. They not only induce a prematurely aged appearance of the skin by extracting the fat from sebaceous glands and tissues, but also produce more or less deep cauterizations. Dry or scaly skins are especially injured by the use of such soaps, while people inclined to wrinkle easily may, upon observation, notice that each application of a soap of this description is followed by the appearance of numerous small lines that indicate the coming of the deeper creases.

The best of all soaps is the one that can cleanse without injury. It should be nearly neutral in reaction, produce but a little lather, and leave the flesh feeling soft and smooth instead of dry and drawn.

In short, it must be made of the purest ingredients if the effect upon the skin is to be at all beneficial. The well-informed woman would as soon think of traveling without her toothbrush as without her own soap. True, nearly every hotel is now provided with some highly scented variety that makes the skin feel as though it had been scalded, but it is just because of the important action soap has upon the skin that all these varieties should be avoided. Carelessness in this respect has caused many an obstinate case of skin trouble, while the use of the soap belonging to others of the same household is many times the means of causing a skin disease to be contracted.

As a guide in deciding as to the best quality of soap the sensation experienced after using it is to be relied upon. If the skin feels as though smiling would crack it, or as though

any motion of the muscles would in some way disturb the "taut condition," or if there is a burning sensation it is not sufficiently neutral in reaction to be a good soap even though it may have been put up in a very elaborate package and may have cost $1.00 a cake. Select a pure, as nearly neutral soap as possible and use it with discretion if you would be comfortable, cleanly and contented, for only such a soap can produce the desired results, for it is said by an eminent authority that "even from the body's purity, the mind receives a secret, sympathetic aid."

CHAPTER XV.

USEFUL SUGGESTIONS TO THE OPERATOR WITH DIRECTIONS FOR STERILIZING THE INSTRUMENTS.

The masseuse who would do good work must not only understand how to manipulate the muscles, open and cleanse pustules and coax the signs of age away, but she must also learn and practice how to thoroughly sterilize her instruments for this work.

The necessity for this knowledge is so great that it is strange in this age of universal information to find so many who neither seem to know nor care anything about this extremely important subject. Not only must the instruments themselves be thoroughly cleansed, but the hands of the masseuse must also be taken into account and rendered as harmless as possible. Soap and water alone are not sufficiently powerful to really clean any hand, and especially to make the finger-nails properly free from germs. In every instance there must be used, not only these ordinary agents, but also something stronger, such as either the 1-2000 per cent of mercuric chloride, as advocated in many hospitals, or the three per cent formalin solution used effectively and very generally for skin work.

The cleansing or sterilizing of instruments may be accomplished by two methods, either by boiling for a few moments in water to which one per cent of soda has been added, or by immersing in a ten per cent solution of formalin. It is a well-known fact that heat destroys nearly all germs very effectively, while chemicals are more or less limited in their action, though, of course, effective in many

cases. The careful masseuse should be provided with a ten per cent solution of formalin and water, and after using an instrument should cleanse it with water and alcohol, and then allow it to remain in this solution for a few moments; for instance, there should be a little flat enameled dish used for this purpose, and into this the formalin solution may be poured, using a fresh supply, of course, for each patient, and always afterward rinsing the instrument off with clear hot water. If the boiling process of sterilization is used, the instrument may be cleansed first and then subjected to the action of the boiling water for, say, four or five minutes. This does not mean water from a tap that is extremely warm, but really boiling water, such as may be obtained by placing the tiny dish over a flame and allowing the water to boil vigorously. This process of sterilization must extend to everything used, the tiny cup of the electrolytic massage, the curettes, and rollers used for massage. These last-named articles may perhaps better be immersed in the formalin solution, as the boiling water is not the thing for hard rubber or ivory, while the steel instruments may be subjected to the boiling.

The hands of the operator should be carefully cleansed before she touches the face of the patient, and this is to be done by scrubbing well with soap and water and then rinsing in either the bichloride or formalin solution. The skin is always covered with a multitude of germs, some of them entirely harmless; others, undoubtedly, germs of disease; any of them well calculated to make much mischief at the first provocation, or when they can gain an entrance into the skin, as through an incision. Hence before opening any pustules or removing blackheads the skin should be washed with an antiseptic solution of formalin. In order to prevent

irritation this solution may be made by using distilled water and adding a little glycerine, thus: Distilled water, 48 ounces; glycerine, ½ ounce; and formalin, ½ ounce. This solution may be poured onto the bit of cotton, and then used for washing and cleansing the face. Then the pimples may be opened with the instruments previously sterilized, and the peroxide of hydrogen used to destroy the elements upon which the germs multiply, though of course this liquid may be of some use in destroying germs as well. The acne creme, to be used for massage, is an ointment containing an antiseptic which may by absorption tend to destroy the germs contained in the pustules, and thus prevent recurrences; hence the necessity for deep massage after the contents of these spots have been removed.

In using any creme, it is well to take the precaution of using from a small amount, rather than from large portions that may be made a breeding-place for the multiplication of germs by the careless masseuse who places her fingers from the face to the jar, and back again, times innumerable. The ordinary skin food is rarely possessed of any germicidal power and may thus be made a medium of much danger.

Hence care should be taken to see that the cremes are used from small jars, and renewed daily, or oftener if necessary, to invariably use bits of absorbent cotton for removing the creme and applying to the face, and if it has been impossible to get enough the first time, to employ a fresh bit of cotton each time the creme is applied to the skin. In applying powder this same precaution should be observed, and the powder should be sifted onto the fresh bit of cotton used for each patient, instead of dipping the cotton into the box.

The moment after an instrument has been used it

should be placed in formalin solution always kept in the bottom of the sterilizer. After twenty minutes it may be placed on the upper section where the liquid will drain off and here all of the instruments should repose when not in use, for in this way they can always be ready for work and at the same time thoroughly protected from the dust.

Large-mouthed candy jars will be found excellent as receptacles for the cotton and gauze in constant use, while the towel supply and head-bands should also be kept out of sight and away from contact with the furniture. Alcohol, witch-hazel, boracic acid, lavender lotion and other liquids in constant use should be kept in special bottles neatly labeled, while all cremes or ointments in use should be kept supplied with fresh labels in order to make the appearance as neat as possible.

There is no excuse for carelessness in this respect. The appearance of any room for the purpose of skin treatment should be as scrupulously neat and attractive as possible. Every patient has a right to demand that all possible effort be made to keep the articles used upon her face and hands absolutely free from any danger of infecting her. The competent masseuse will need no urging to devote the time necessary to this work.

Those who read these lines feeling that such precautions are unnecessary will do well to remember that each year is raising the standard; and requirements for these responsible positions are consequently becoming more rigid. Operators who get the best results will naturally be the most popular, and will obtain equally pleasing returns financially.

The skilful operator occupies a prominent place in the lives of women, for she means to them a powerful aid in preserving their complexions, increasing their period of en-

joyment in proportion to the youthful appearance they are able to present. Many women are really young as long as they appear to be, and they dread the encroachments of age not so much because of the fear of losing their beauty, but more on account of the dread of the loss of affection and attention they think will follow as their ability to attract and please decreases.

It is especially with the hope of impressing upon all women in this business the necessity for absolute honesty that these lines have been written. The more generally full knowledge on this subject is disseminated, the better for investigators, for then there will be fewer despondent and discouraged souls in this world, and more who are happy and contented.

The woman who makes a failure in this work of beautifying others has usually no one to blame but herself, for in every community there are scores of women absolutely hungering for an opportunity of learning how they may best be improved. If a masseuse is careless of her appearance and has not tried to remove in herself the defects she claims to cure in others she cannot hope to be considered particularly desirable. Another fault she may possess is that of gossiping with one patient about the defects of another. This is most disastrous and inevitably means ruin. Finally she must remember that a certain amount of publicity is desirable and that cards, printed matter and a judicious amount of advertising are good investments, not a waste of money.

We have known of no failures among women who were well-grounded in their work, punctual in keeping their appointments, scrupulously neat in appearance, discreet in conversation and industrious. In no other field is there

found so great an opening as in this special line today, for while there are very many people who claim to do the work, not one in a hundred is really well enough informed to do as she should, and hence there is ever an opportunity for the woman who is wise enough to realize this fact and learn her work thoroughly.

The ideal masseuse possesses a certain amount of personal magnetism that makes her presence restful. She must be alert to every possibility of improvement and strong enough to consider every episode of a disappointing nature a spur to further effort rather than a drawback to future progress. Each day will bring to her fresh material for experiment and study, and if she truly loves her calling, she will find that her enthusiasm grows as she progresses into a full realization of the wonderful possibilities within her reach. The demand for honest, earnest work has never been so great as it is now, and the one who enters into her vocation with the determination to put heart and soul into her labors may rest assured that she will reap a well merited success.

"Let your light so shine that others may see your good work."

CHAPTER XVI.

HOW TO FURNISH THE TREATMENT ROOMS.

The most practical and effective method of furnishing the rooms to be used for the treatment of the face, scalp and hands is a question that interests every woman in business. But a few years ago the fad was to have heavy rugs, expensive and dust-gathering hangings, all sorts of ornaments and most elaborate surroundings in order to impress the ordinary observer with the sense of luxury and comfort.

Today, with our knowledge of hygiene and our desire to do the best work, we reject everything that is not of practical use and hence use in the operating rooms only the necessary articles of furniture—and to go a step farther, we are endeavoring to have all of these articles made of white enamel and iron so that they may be perfectly aseptic.

This care extends also to the floor and walls, and whenever it can be so arranged the tiling effect in pure white will be found excellent for both. When this is not within the range of possibilities the tiled linoleum will make an excellent substitute for the floor, while for the walls, either tiled oil cloth or sanitary paper may be used with most satisfactory effect. The wood work, of course, should always be painted white and then enameled.

Each department should be completely furnished, and should be so arranged as to be practically shut off from the others, either by screens or partitions. For instance, in the shampoo or hair-dressing or scalp treatment work, as well as in the massage of the face the operator and subject should be kept completely screened from observation so that the

ordinary visitor may not be able to see who is being treated or what is being done. When partitions cannot be built and screens are found too expensive, effective and economical substitutes may be arranged by tacking plain white or the tiled oil cloth onto wooden lath frames and thus making a complete division of an apartment.

In addition to the care observed in protecting subjects from the casual observer, an effort must also be made to have every article necessary for work in each booth. Thus every treatment may be given without interruption or the necessity for the operator running from one booth to another to secure the especial instrument she needs. In short to use the old expression—"there should be a place for everything and then everything should be kept in its place."

The average woman in business, as a rule starts in with just enough money to buy the absolutely necessary equipment. Hence in giving a description of what is really desirable, this fact should be borne in mind, as in every instance it will be quite possible to spend more money should one have the desire.

The reception room should contain in addition to the usual number of chairs, the display cases for goods, writing desk with supply of stationery and table covered with periodicals, also business cards giving kind of treatments and prices for work. If the room is large enough one or two manicure tables may be placed in this room, as manicuring is perhaps the one exception to the rule that work of this kind should be done with as much privacy as possible. If the room is small another little department may be added and the furniture necessary will be as follows, if the new aseptic material is used:

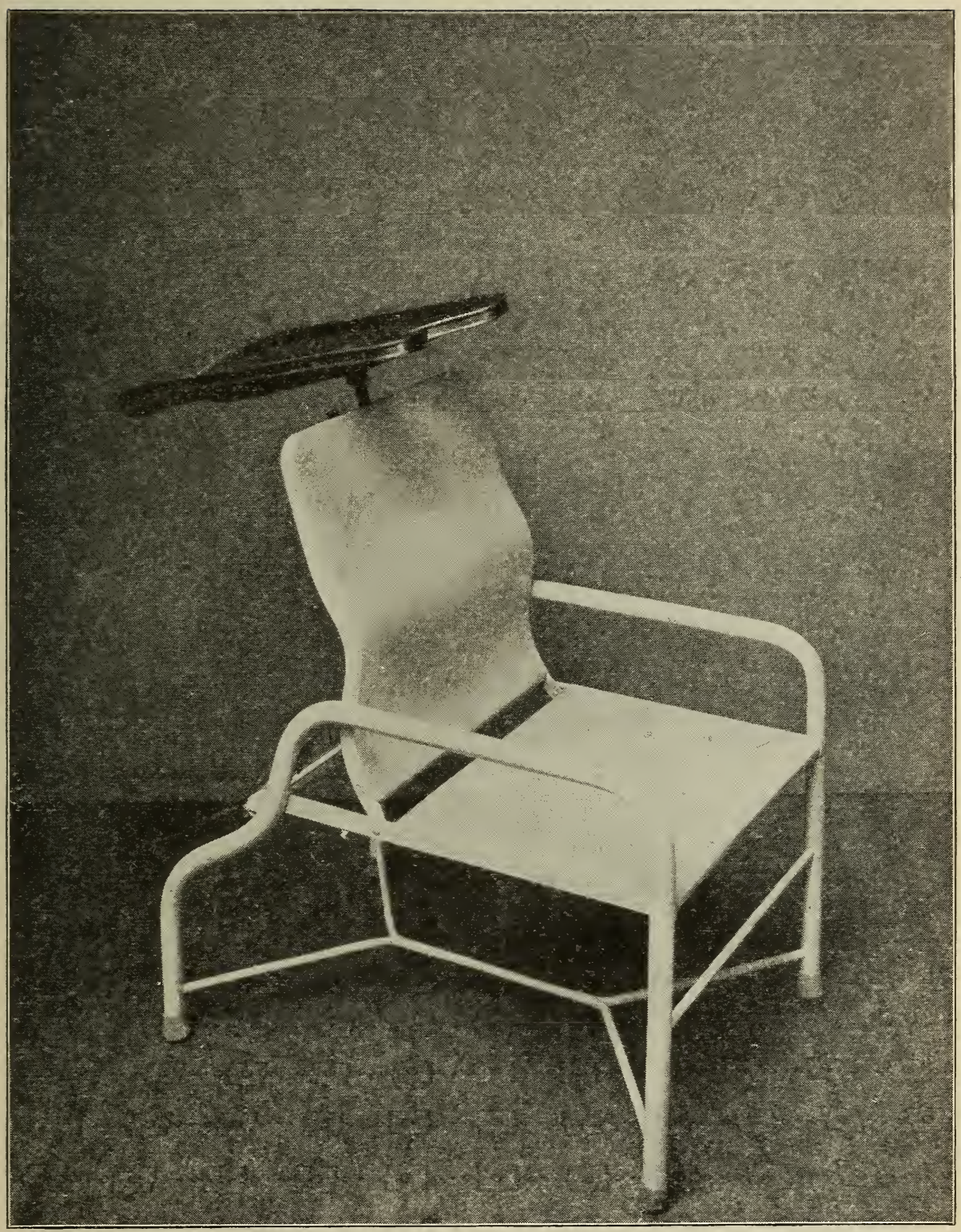


FIG. 19. Shampoo Chàir and Board.

Table	$15.00
Chair	6.00
Stool	6.00
Manicure Instruments	4.00
Emery boards, polish, etc	1.50
	$32.50

In the massage department the cost of furnishing varies very widely. For instance, one may want to start in business with the least possible expense and would therefore use the bag with electrolytic cup, the 14 dry-cell battery in place of the wall-plate, a Morris Chair in place of the regular massage chair, and possibly would not use the vibrator at all.

In the accompanying list prices are given for the best equipment, and these may be decreased as either taste or necessity may make such a matter desirable. The massage chair in either the aseptic furniture or in the other style will amount to approximately $40, and as both varieties of the new kind are designed not only for the comfort of the subject, but also with a view to saving the operator the many weary hours of standing otherwise necessary, this investment would seem to be a wise one from every point of view. With the battery, it has been explained that just as ten horses will pull a greater load than one, so will a battery with a greater number of cells or one that is connected with the city current have a more powerful effect than one with a limited number of cells. Hence, of course, one will see that in every instance in which it is possible an investment should be made in the very best apparatus that can be procured, as in time it will be found by far the cheapest.

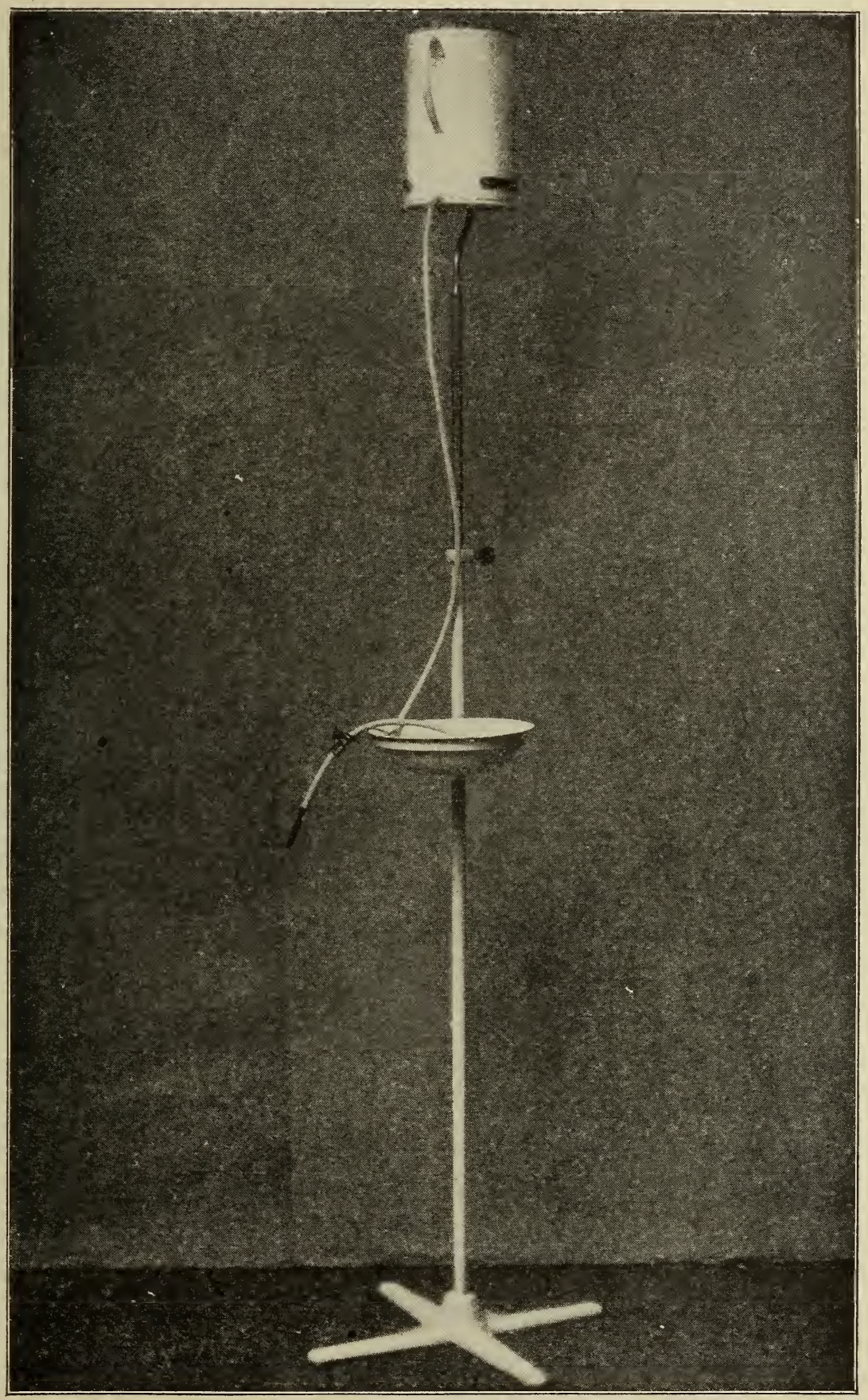


FIG. 20. Irrigating Stand for Use with Electrolytic Cup.

Massage Chair	$ 40.00
Glass Top Table	7.00
Small Sterilizer	2.35
Irrigating Apparatus with the Electrolytic Cup	10.50
Galvanic and Faradic Wall-Plate or Improved 27-Cell Battery	35.00
Radio-Bell	5.00
Electrodes, Needle Holders and Needles, etc.	5.00
Screen—Steel—White Enamel	12.00
Mirror with White Frame	8.00
	$124 85

To this list a vibratory machine costing any price from $25.00 for the hand machines to $75 for the standards, may be added if one so desires. Should, however, necessity demand a less expensive outfit, by omitting the screen, irrigating apparatus, using the 15-cell battery in place of the other, securing a smaller mirror and using a Morris chair the expense may be decreased to a minimum of about $60.00.

The difference in price will hardly appeal to the ambitious woman, for with the one equipment she will have an ideal operating room while with the other, naturally, there will remain much to be desired.

Ordinarily the work of shampooing, scalp treatment and hair-dressing will be conducted in the same room, though this will doubtless also be separated into booths by oil-cloth or wooden partitions or better still by screens so that at least three departments will be provided. Here will be found necessary the usual number of chairs, at least one dressing table and the following articles:

Electric Hair Dryer	$40.00
Shampoo Board and Chair	25.00
Battery	15.00
Sanitary Hair Brush	2.25
Curling Iron Heater	1.35
Brushes, Combs, Irons etc	10.00
Radio-Bell	5.00
Small Sterilizer	2.35
	$100.95

In this estimate once more a complete equipment has been given, so if necessity demands, by omitting the battery, radio-bell and using the shampoo stand instead of the shampoo chair, a reduction of $30.00 can be made.

The shampoo chair and board will, however, be found a very good article, as after the shampoo is finished, the board may be removed and the chair used for scalp treatments, and as it is aseptic this is a very desirable feature, as it can be kept perfectly clean at all times. The shampoo board possesses the advantage of being so arranged that the subject can sit in an ordinary position with her neck resting against the collar of the board while her hair is being shampooed. This permits the most thorough cleansing of the hair and scalp without the slightest inconvenience to the subject, and at the same time makes work far easier for the operator. The advantage possessed by the board as over the scooped-out bowl, is that it can be adapted to any person of any height and in addition the long hair can be much more quickly and effectively rinsed free from soap than when washed in the bowl.

The electric dryer is a decided innovation and has quickly attained a marked degree of popularity, owing to the fact

that the heat generated is not sufficiently intense to injure the hair, and also because by using electricity alone the very disagreeable odor always attendant on the use of gas as well as the too intense heat are both avoided.

In addition to the expenses mentioned there will of course be made an allowance for a supply of coverings for the gowns, Turkish towels and small hand towels, head-bands and aprons. Including everything that can be used however, the expense can be made to come under $250.00, or may just as easily be increased to twice that amount, with a suitable allowance of course made for advertising matter such as cards, announcements, etc.

The expense of this investment though is so ridiculously small, as compared with the earning properties of the same amount of money invested at what is called a "safe rate of interest," that the practical woman who wants a pleasant, lucrative and popular means of earning a livelihood will hardly hesitate many moments at making the decision to start in a new career. She well knows that $500 at six per cent will only make for her $30 in a year, while the same amount of money used wisely in securing her apparatus will make her self-supporting and independent. Therefore, given a good foundation in the way of practical training, a desirable location and the necessary equipment and willingness to work, nothing more can be desired, for success is assured.

CHAPTER XVII.

ELECTRICITY.

Electricity is now regarded as a force corresponding to the other manifestations of Nature such as light, heat, etc. It is really a mode of motion, a form of vibration or some other manifestation of that form of matter called ether. It is manifested in three general forms, magnetism, static or franklinic electricity and galvanism.

In the work of removing facial blemishes, for cataphoresis, stimulation of the skin or scalp or similar operations the use of either the galvanic or faradic current is indicated and hence it is necessary that the student become familiar with their nature, use and possibilities.

The importance of these two forms of electricity can hardly be overestimated, for they can be used in countless ways for conditions most dissimilar, and in many instances can produce desired results in fully one quarter of the time required by other methods.

It is true that in the past many operators have been deterred from attempting to use electricity, because of the feeling that the course of study necessary would be far beyond their means. Books of instruction only made the matter more difficult, as the terms used to describe the various measurements were not made sufficiently clear for the average mind to grasp, and as a consequence, investigation brought confusion rather than enlightenment.

With these facts in mind the author is determined to make the directions for work as clear and concise as possible, using only the terms actually necessary for the proper explanations, and endeavoring always to keep before the

mind of the student the fact that instead of working blindly, with a mysterious element, Electricity is a natural force, and its use is clearly indicated as a practical method of accomplishing the best results in the shortest possible time.

Again referring to the definition it will be remembered that electricity is a manifestation of that form of matter called ether. To understand the subject clearly, it will be therefore necessary to know some of the properties of ether, and for this purpose it will be well to give this definition.

ETHER.

"Ether—an hypothetical medium of great tenacity and extreme tenuity pervading all space, the interior of solid bodies not excepted, and acting as a medium for the transmission of light and heat."

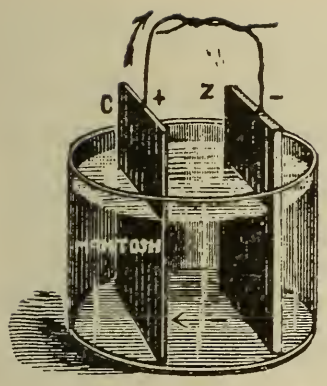
Ether, then, pervades all space, is present everywhere, and consequently we have electricity present in a passive state. To make use of this force, we must therefore "disturb the equilibrium of the ether" by some form of action, and it is by varying this form of action that we secure the different forms of electricity.

GALVANISM.

The Galvanic Current is that form of electricity generated by chemical action. It is sometimes called voltaism or voltaic electricity, or, to use the most commonly accepted term, the continuous or constant current—because it may be used without interruption or breaking of the current.

MANNER OF PRODUCING THE GALVANIC CURRENT.

The simplest form of galvanic cell consists of two pieces of dissimilar metals partially immersed in diluted



sulphuric acid. The illustration shows a single galvanic cell composed of zinc and carbon plates. When these plates are insulated from each other there is no action between them; but when they be connected by a wire, chemical action at once begins at the surface of the zinc, electricity is generated which passes across the liquid to the carbon. The zinc is known as the negative element and the carbon as the positive element. The current of electricity passes through the fluid from the zinc to the carbon and from the carbon passes along the wire back to the zinc, thus completing the circuit. The current generated in the battery cell always takes this direction, hence the current from the carbon pole is always positive and the current from the zinc pole is always negative. If this fact is kept well in mind there need never be any doubt or fear about using either the positive or the negative, whichever may be desired or indicated as necessary in any particular treatment.

When six cells or twelve cells are used the current is continuous from the zinc of the last cell of the series, whether it be six or twelve, through the fluid to the carbon, and by means of the wire to the zinc of the next cell, and so on through the entire series, finally emerging from the carbon of the first cell through the copper wire back to the zinc of the last cell, six or twelve, as the case may be. Now, if the copper wire connecting carbon of cell "one" with the zinc of cell "twelve" be cut and a living body (the patient) be placed in the circuit, the patient then becomes a part of the circuit; if the right hand is holding the wire from the carbon, then the positive current is entering the body through

the right hand and the negative current is passing out of the body through the left hand and back through the wire to the battery. Or, as in practice, if the sponge or inert pole is connected with the wire or conducting cord from the carbon and the needle or active pole is connected with the conducting cord from the zinc, then the needle becomes the negative pole and is properly connected for negative electrolysis.

The quantity of current from one cell is as great as the quantity from six or twelve cells; but the penetrating power is increased by each additional cell; and just as we add two or four or six horses to overcome the resistance of mud or hill or heavy weight of load, so we add two or three or six or twelve cells to overcome the resistance of the human body and secure sufficient force or push (electro-motive force—E. M. F.) to force the current through the resistance interposed.

BATTERY.

A battery is a machine for the production of electricity. As the electric current is produced and may be used from the simplest form of cell, so this also may properly be called a battery. A combination of cells would be known under the same name, only designating whether the battery were composed of one, two, twelve or more cells, by mentioning the number in use or by stating it to be connected with city current.

THE CIRCUIT.

The *circuit* includes the constituents of the battery, the connecting wires and anything with which the free end of the wires may be connected. For instance, in illustration—should the operator hold a connecting wire from "c" in one hand and from "z" in the other, the circuit is completed and is called a "*closed circuit.*"

Should, however, the first "z" and last "c" be connected directly by a short wire or by touching the tips of the connecting cords together, a "short circuit" is caused, destroying the efficiency of the battery by exhausting the cells.

An *open circuit* is made by disconnecting the wires and thus putting the battery out of working order.

POLES.

The points from which the electric current enters and leaves, are called the poles. The positive pole is designated by the letter P or the sign +, the negative by the letter N or the sign —.

BINDING POSTS.

The metallic posts into which the conducting cords are placed are called "binding posts" and are designated by the letters P and N to show to which pole the cords may be attached in galvanic section, or P and S in faradic section, meaning primary and secondary.

ELECTRODES.

The instruments to which the conducting cords are fastened are known as electrodes. Thus a hair brush would be known as a "hair-brush electrode," a sponge as a "sponge electrode," the carbon cylinder as the "carbon electrode," etc. Oftentimes the expression "Apply the positive or the negative pole" confuses the beginner. These terms simply mean to apply the electrode connected with the positive or the negative current.

CONDUCTORS.

All materials or substances such as gold, silver, copper, etc., which readily permit electricity to pass over them, are called good conductors. The term conductors is applied

to the electrodes and cords by which they are attached to the battery.

INSULATORS.

Substances hindering the passage of electricity are called insulators. Among them may be named glass, rubber, shellac, etc. As an example of the necessity for insulation, the conducting cords may be taken. They are of wire, but are covered with silk or cotton, thus *insulating* them so that an accidental contact between the wrapped cords cannot produce a "short circuit" and thus exhaust the battery. In some work in which the operator only desires to obtain the action of the electric needle for a certain distance, all but the portion of the needle inserted beneath the skin will be covered with shellac, thus insulating, and preventing any trouble from accidental contact.

In addition to a knowledge of the names of the various parts of the battery it is absolutely essential that the student be familiar with the electric measurements, that she may be able to realize at all times the quantity of current she is employing.

The volt, ampere and ohm, are the first three measurements in electricity.

VOLTAGE.

Voltage, also called Electro-Motive-Force or E. M. F., is one of the component parts of electrical energy. It is in reality the pressure at which electricity is used and represents the "push power." One volt is equivalent to the pressure from one Daniells cell. But although we may have a great amount of pressure and must know accurately what proportion we are using, it does not always follow that the quantity of electricity in use will be great, because we must also remember that the pressure is to be exerted against a

resisting force. It follows, therefore, that the current available for performing work will be only the excess over what is required to overcome resistance.

OHM.

The ohm is the unit of resistance. Resistance may be well illustrated by this very simple example. Supposing a force of ten pounds were to be utilized for driving a steel pencil into first a block of stone, next a block of wood, and last of all a pat of butter. Naturally the steel would only by the exertion of tremendous force—or voltage—make an impression on the stone, because the resistance would be so great. On the wood the resistance being far less, the same pressure would produce a greater effect, while with the butter the steel would have no difficulty at all, as the resistance would be practically nothing.

As electricity is constantly used upon bodies having varying grades of resistance the ohm is therefore used as a unit of measurement, and technically one ohm is said to equal the resistance of a column of mercury 106 centimeters in length, having an area of cross-section of one square millimeter, at 0 degrees C. or 32 degrees F.

AMPERAGE.

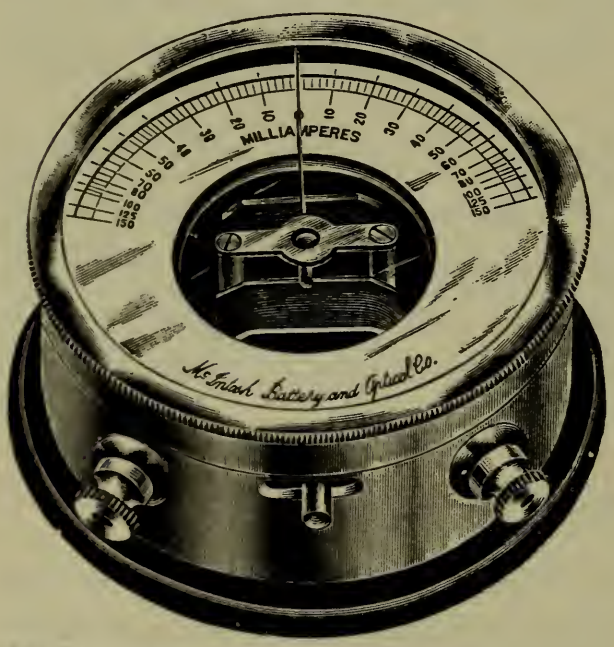
The ampere is the unit of current and represents the amount of electricity that can be pushed through a resistance of one ohm by one volt of pressure. The ampere would of course be too much current for use in the work of applying the electric current therapeutically, so for convenience sake has been divided into 1,000 parts called milliamperes.

The human skin offers a decidedly high resistance to the passage of electricity, representing with ordinary sponge discs from 5,000 to 14,000 ohms. A battery of say 20 dry

cells would when fresh represent a voltage of thirty. This interposed against the average body resistance of 6,000 ohms, the quantity of current obtained could be found by dividing the number of volts by the number of ohms showing the body resistance and in this instance would therefore represent 1-200 of an ampere or about 5 milliamperes.

MANNER OF MEASURING THE CURRENT.

As all bodies differ in respect to the amount of resistance they interpose, and as in the human body different parts vary owing to the texture of the skin, presence of fat, etc., it can easily be seen that the resistance plays an important part in any operation in which electricity is used. Thus although one knows that the average cell when new can exert what is practically equivalent to one and a half volts of pressure, the amount of current used will naturally depend upon the resistance interposed, and hence the necessity of knowing with some degree of accuracy how this current may be measured, for the voltage is only the propelling power, it is the current (ampérage) that accomplishes results. The instrument used for the purpose of measuring the current passing through the patient is called a milliampere meter. By the use of this instrument, we can always tell just how much we are using, no matter what may be the resistance of the subject. It is therefore a very valuable and in fact a necessary part of every battery.



McIntosh Improved Milliamperemeter
Carpenter-Deprez Type, Pocket Form.

MANNER OF CONTROLLING THE CURRENT.

It has been explained that resistance is a most important factor, and must always be considered in the amount of current used for any treatment. In many batteries of the newer type the direct or street current is used as a means of supply and as the voltage varies from 90 to 500, it is sometimes necessary to interpose a greater resistance than that offered by the body and hence the use of the "rheostat." When the rheostat is to be connected with the direct lighting current a Vetter series attaching plug with 16 candle power lamp should be employed. The attaching cords leading from the Vetter plug should be tested for polarity by dipping them in a glass of water, the negative pole being indicated by a great profusion of fine hydrogen bubbles; this cord should be attached to the binding post at back of rheostat marked "N," while the other cord should be attached to the binding post marked "P." After the connections are made and the current is turned on the rheostat regulates the current by means of a small arm which may be moved about until the meter registers the amount of current usually employed in the operation. This rheostat is also used in all large batteries and is extremely helpful in regulating the current.



The MacLagan Wire Rheostat.

HOW TO SELECT A BATTERY.

After studying the subject of electricity the student naturally desires to purchase a battery and immediately the question occurs, "what kind do I need?" Nine times out of ten, the matter has been decided *not* by considering the use to which the battery is to be placed, *not* by the fact that a good battery always costs more than a poor one, but simply by the question of price itself.

The utter absurdity of such a course is apparent to anyone who realizes that as the electric current is now used in practically every treatment of the scalp and face, it is imperative to procure a battery that will be capable of furnishing the different currents indicated for treatment of the conditions found.

Of course, one must also take into consideration the manner in which the operator is obliged to employ the current. For instance if residence work is to be cared for, a portable battery is a necessity, and hence the number of cells must be limited. If one is a long distance from supply stations or is living under climatic conditions that preclude the use of the dry cells, now so commonly employed, a wet cell battery must be purchased, while on the other hand if the work can be done in an office under the most favorable conditions and the city lighting current is direct, the wall-plate may be utilized.

In any event, no matter what economy she may practice in other directions the operator who wishes to obtain positively the *best* results, should without the slightest hesitation procure the very *best* outfit for her particular kind of work; it is really upon the proper use of the electric current united with her other treatments, that she can base her fondest hopes for success.

Ordinarily the average operator has purchased the faradic battery and has used it for every operation. The faradic current, the use of which will be explained later, is excellent in many cases, but the operator who hopes to give all treatments successfully by means of it and thus to limit her use of the electric current, cannot hope to do good work.

Hence it will always be well to procure a battery that combines both currents, the galvanic and the faradic, and in this manner offers a much wider range for a variety of treatments.



McIntosh 14 Dry Cell E. & M. Battery.

For a portable battery, combining both currents, nothing better can be found than the form here illustrated. In this there are twelve cells for the galvanic portion and two for the faradic. It is so constructed that all the instruments in use may be packed closely into a section left for this purpose, while either portion may be repaired or changed without disturbing the other. A small switch circle makes the increase or decrease of active cells an easy matter. For a beginner this battery will be especially good, for while it is quite all that can be desired for the work of removing superfluous hair, and minor facial blemishes, scalp stimulation, etc., it is also so simply constructed that the most diffident novice will be able to understand and use it sucessfully after carefully heeding the directions.

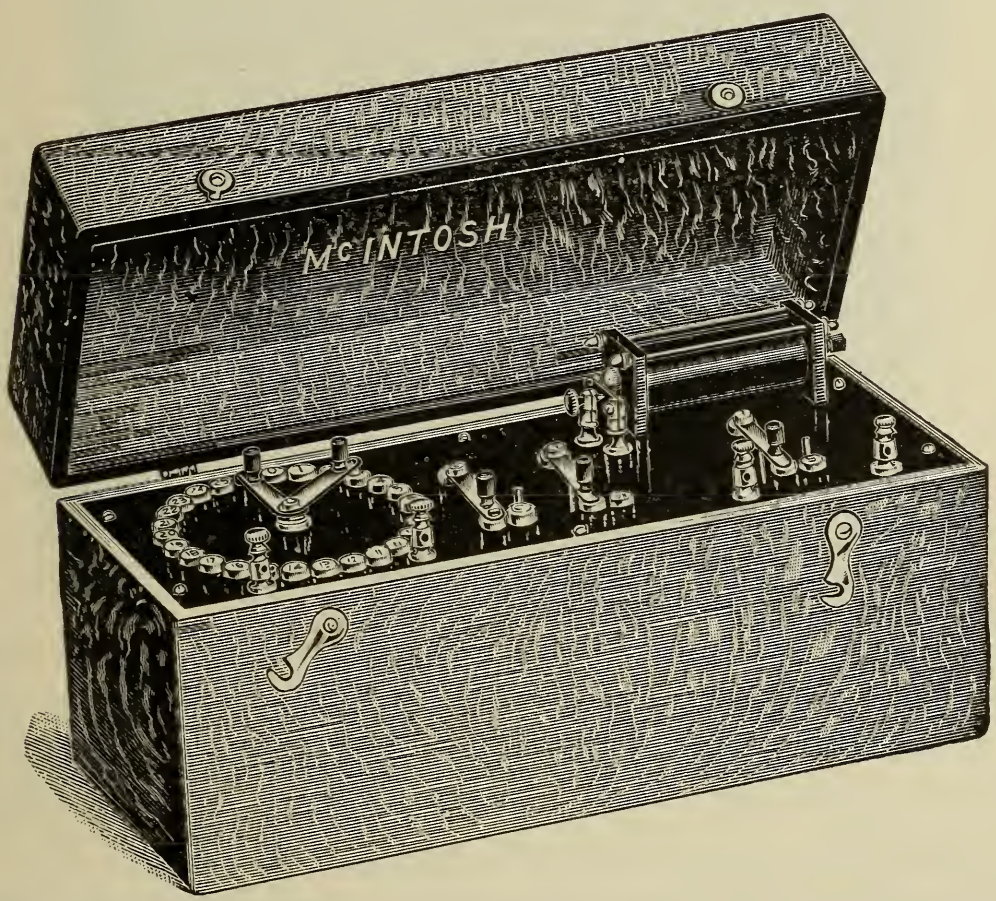
The cost of recharging this battery is but trifling, and as with hard usage the cells last for six months, while with average use they will be good for at least eight, it can easily be seen that the battery will but seldom be out of working order, and at such times the delay will only be of a short duration, as the work of replacing the cells is simple indeed. As all cells, either wet or dry, are practically of the same strength in the beginning, the same rules that have been given for the use of the other battery will apply in this, and as a rule four cells will be found all that will be necessary to use in the average treatment at first, although six and seven and even eight will usually have to be added gradually in the treatment of moles or warty growths, while ten and twelve may be used in giving the electrolytic massage.

A more elaborate dry cell battery, furnished either with or without the rheostat and the milliampere meter, is also illustrated. The manner of using is the same as with the smaller form and the results will be found most excellent.

This battery is decidedly in favor in sections where the direct lighting current cannot be utilized, and yet where the operator desires a heavier current for use in cataphoresis as well as for stimulation.

THE MC INTOSH "SIMPLIFIED" 27 DRY CELL GALVANIC AND FARADIC BATTERY.

It is of similar construction to the Fourteen Dry Cell Combined Battery, and is fitted with twenty-seven dry cells

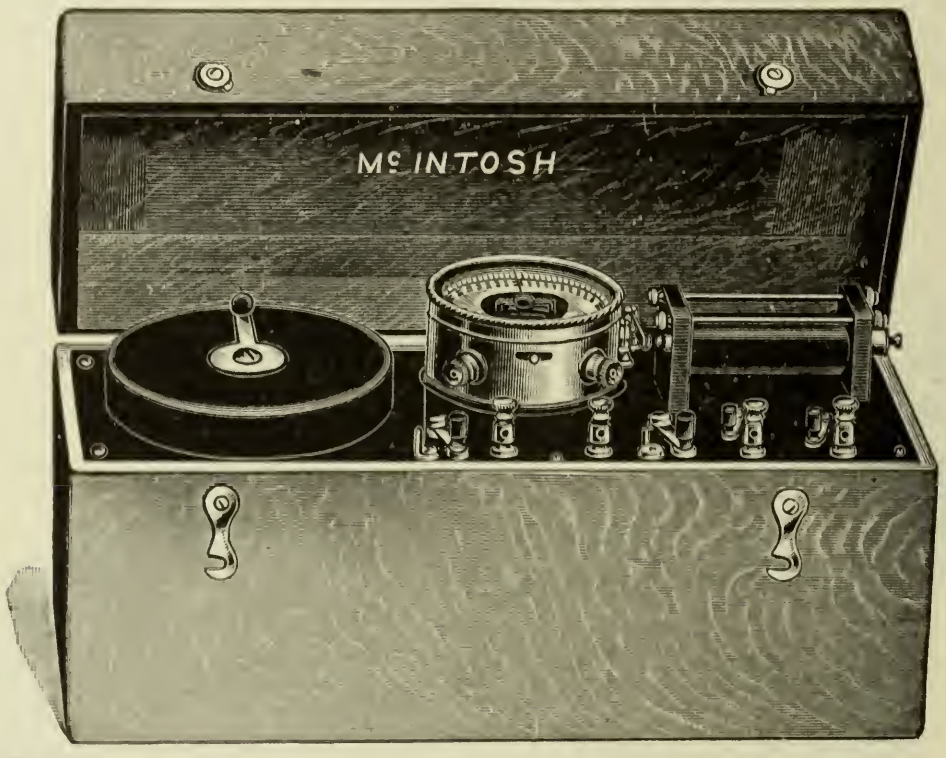


The McIntosh "Simplified" 27 Dry Cell Galvanic and Faradic Battery

twenty-five being connected in the galvanic circuit and two utilized for the faradic coil.

THE MC INTOSH "ELABORATE" 27 DRY CELL GALVANIC AND FARADIC BATTERY.

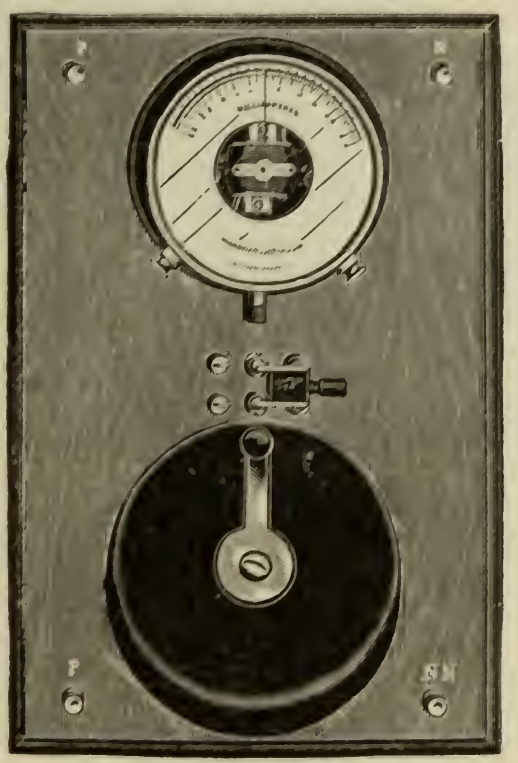
In this battery the galvanic current is obtained from twenty-five dry cells connected in series, controlled by the MacLagan wire rheostat and measured by the McIntosh improved milliampere meter, scale-reading O-150, and obtained from the binding posts facing the meter.



The McIntosh "Elaborate" 27 Dry Cell Galvanic and Faradic Battery

For office work, or where one uses a battery constantly, and can secure the direct dynamo current, a wall plate is most desirable. The great advantage in the use of this battery lies in the fact that it is always ready for work, never gets out of order, and provides a current that may be used every hour of the day with practically no deviation in strength. This battery also furnishes a current that may be used for any kind of treatment from the light work

necessary in all treatment of facial blemishes to the heavier currents customary where disorders of the system have to be considered. Where one desires to use simply the galvanic current, the form of plate illustrated below, embracing rheostat and milliampere meter only, is practical.

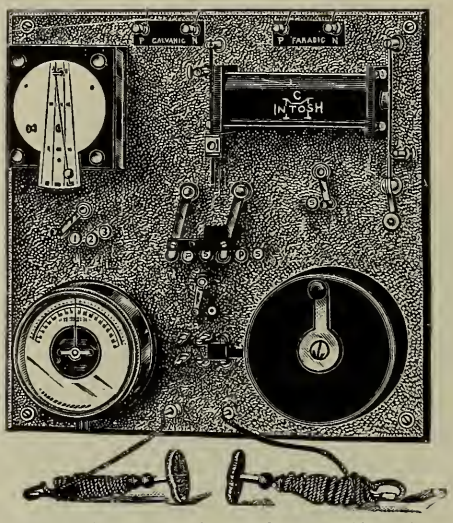


Galvanic Plate.

The use of the milliampere meter makes the work far more satisfactory in many ways, as by glancing at the meter one can at a glance see exactly how much current the patient is taking.

The combined battery is really the ideal apparatus for the operator who likes to feel that she has at all times at her command, just the kind of current she desires to use on any case. There is very little expense connected with a battery of this kind, and it is so useful and so complete that one who is once accustomed to it will prefer it to anything else.

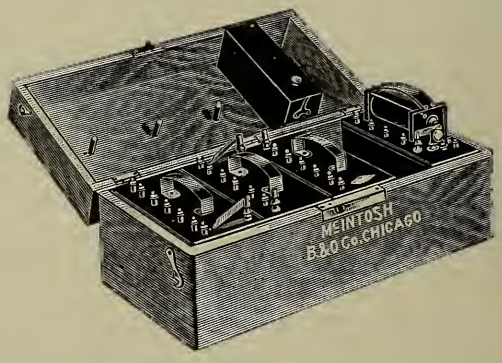
Even in instances where the lighting current is not direct, it is possible to use a wall plate by securing a number of dry cells and making the connections accordingly.



Combined Galvanic and Faradic Plate.

This form of battery can also be provided in a wall cabinet or in a case that will stand on the floor if one desires such an arrangement. For all practical purposes, however, just the plate itself is all that is necessary.

When a fluid battery is found to be a necessity it may be obtained with cells varying from six to twenty-four, as desired. In the use of this form of battery, as in that of the dry cell, it will not be found practical to use anything smaller than the



McIntosh Galvanic and Faradic Battery

one in which there are twelve cells of the galvanic portion as well as suitable arrangement for the faradic section.

Before attempting to charge and use a zinc-carbon bichromate fluid battery, the beginner will do well to heed the following directions. It is quite necessary to know how to make the fluid and fill the cell, as it is to make the proper connections and proceed with the work. Much difficulty may be avoided by sufficient care in mastering the preliminary details. The battery fluid is made by means of the following directions:

To make the battery fluid: Sulphuric Acid, Commercial, 3 fluid ounces; powdered bichromate of soda, 3 ounces; water, 16 fluid ounces; bisulphate of mercury, 2 drachms. Dissolve the bisulphate of mercury in the water; then add the bichromate of soda. Slowly pour in the sulphuric acid and stir until the ingredients are dissolved, then allow the liquid to cool, as the mingling of the acid and water produces heat, and if the mixture is used when warm it injures the battery.

The bisulphate of mercury keeps the zincs well amalgamated.

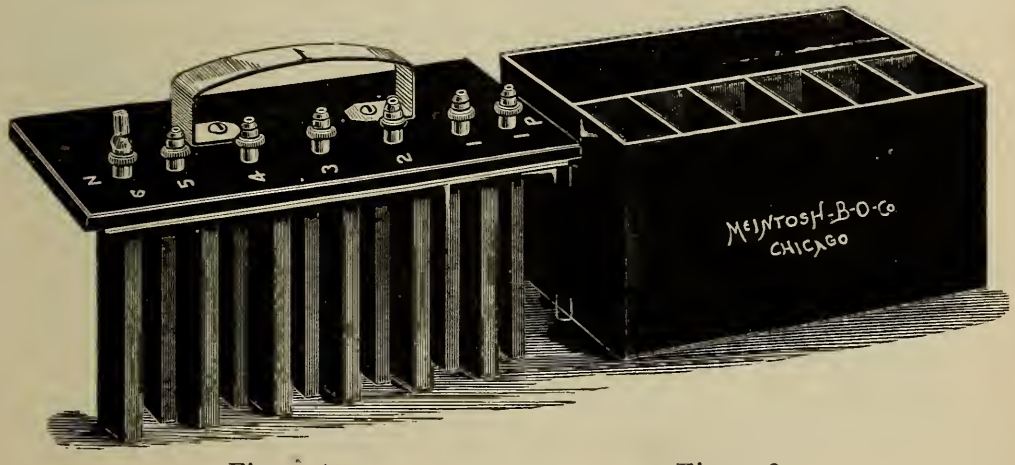


Figure 1. Figure 2.

Fig. 1 shows the hard rubber plate of a section (on the under surface of which is cemented a sheet of soft rubber). The binding posts which project through the hard and soft rubber screw into the brass piece holding the zinc and carbon couples. The rubber plate on which the couples are clamped projects over on one side enough to cover the cells when the zinc and carbon plates are placed in the drip cups. When the cells are not in use and the lid of the battery box is closed, it presses on the *spring handle* of the section (Fig. 1) and holds the soft rubber firmly over the cells and drip cup. By this arrangement the hydrostat is made water-tight.

Fig. 2 shows a section of six cells and a drip cup made of one piece of hard vulcanized rubber. The drip cup is to receive the zinc and carbon couples when not in use.

By the aid of a simple current selector any number of cells can be used. (See cut.)

To use six galvanic cells lift section 1 and remove the elements from the drip cup; carry forward and place them in the galvanic cells; then connect one conducting cord with P1 and the other with N6 (all parts marked P are positive and N negative).

To use twelve cells lift section 2 from the drip cup, move it forward near section 1 and place the elements in the galvanic cells; connect N6 with P7 by means of the horizontal bar and the conducting cords, one with P1 and the other with N12.

The bifurcated or forked cord is for the purpose of preventing a shock while changing to a less or greater number of cells while using the galvanic current. For example: Suppose you are using seven cells. One of the bifurcated ends would be connected with cell No. 7 and the other end

hanging loose. If you wish to use, say, twelve cells, take up the loose end of the bifurcated cord and connect it with No. 12 before you pull the other end out from No. 7. Thus all shock is avoided in the change. The same method of procedure is necessary to prevent shock when reducing the number of cells in use.

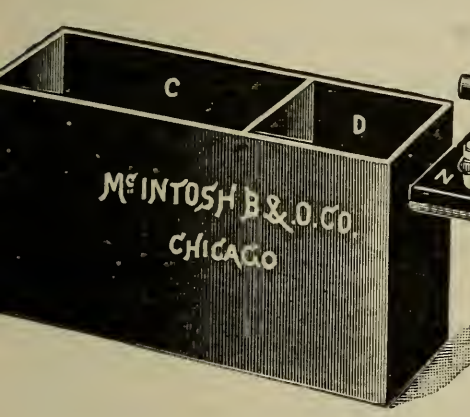


Figure 3.

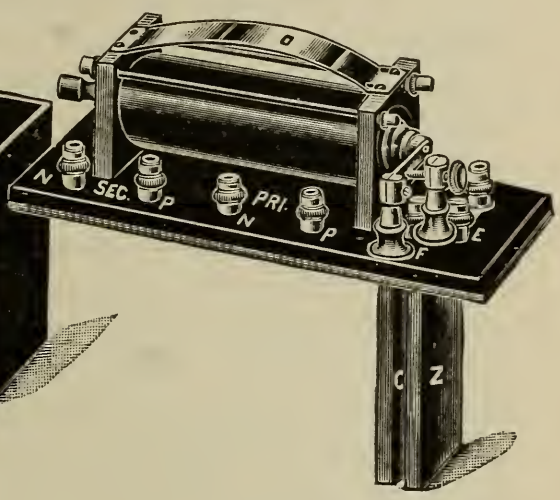


Figure 4.

To use the faradic section of the battery holding the coil lift the section marked O from the cell and drip cup, fill the large cell half full of battery fluid, reverse the section and place the elements in the large cell C and the battery will commence to work at once, which may be known by the buzzing of the rheotome. To obtain the primary current insert the tips of the conducting cord in posts P and N, on either side of "prim." To obtain the secondary current insert the cord tips in post N and P on either side of "Sec." Either current can be made stronger by drawing out the shield in the coil.

To connect the coil with one or more galvanic cells:

In a case of emergency, like an attempt to resuscitate a person from drowning, where greater intensity is needed than one cell will give, the coil can be connected with the galvanic cells of section 1 by means of the long, spiral wires, as follows: Reverse the coil section, immerse the elements of section 1 and connect post A near the coil with post P1 on section 1, and post B on coil with post 2, 3, 4, 5 or 6, on section 1.

Sometimes the inexperienced operator will say: "I have fluid made according to formula, but I cannot obtain a current even from twelve cells. When I immerse the elements in the fluid the liquid boils or froths and the battery gets hot, the zincs are rapidly eaten up, but I get no current." When such conditions are observed it shows that the battery fluid is not made according to formula, but contains too much acid. When the battery fluid contains large excess of acid the zinc is rapidly destroyed, the fluid bubbles or boils and becomes hot. Hydrogen gas is generated, but no electricity. The remedy in such a case is to add one-third to one-half its volume of water to the battery fluid.

Diluted acid acts very slowly upon the zinc; there is no violent action; the fluid does not become hot; there is very little generation of hydrogen gas, but a good and constant current of galvanic electricity.

The McIntosh galvanic battery is constructed with its metallic cord tip fitting firmly into the metallic binding post, which in its turn is screwed firmly into the metallic bridge, and this bridge securely fastened by metallic connection to the zinc and carbon plates, so that when the zinc and carbon elements are in good condition, and the fluid properly compounded, and the conducting cords all right, it is impossible to avoid getting a satisfactory current

through the electrodes when the elements are immersed in the fluid.

By glancing over this list, it will be quickly seen that the variety of batteries described, offers any operator a very good opportunity for making a choice of exactly the kind of an apparatus most convenient and suitable. Consequently she has but to consider the uses to which her battery must be put, the conditions under which it must be operated, the opportunities for obtaining any supplies she needs, and after giving each subject the consideration it deserves she can easily make her selection, remembering always that true economy consists in buying the best instruments and the most modern equipment.

THE USE OF THE GALVANIC CURRENT.

ELECTROLYSIS.

Electrolysis is the process of resolving a chemical substance into its elements by means of the use of electricity, or, in other words, to chemically decompose it by means of the current.

In the work of removing facial blemishes such as the destruction of superfluous hair, warts, moles, naevi, reduction of enlarged capillaries and treatments of this nature the electrolytic process is always used and hence the necessity for the galvanic current.

For work of this kind, nothing smaller than a twelve-cell battery should be provided, because as there is a great difference in the amount of resistance in different subjects, and as hence some patients require the use of more cells than others and as in this manner the number brought into circuit for operations of this kind will vary from four to eight and even ten, it can readily be seen that a battery

composed of fewer cells could not possibly be practical for all occasions.

Before commencing the study of how to proceed in this work of electrolysis it is really necessary that the student should understand the differentiation between the negative and the positive pole and should be made thoroughly familiar with the methods of testing the batteries.

It has previously been explained that in the cell the zinc is the positive pole because the current flows from it, but that outside of the fluid the order is reversed and the carbon terminal is always called the positive and the zinc the negative.

Certain important peculiarities are attached to these poles and in fact the whole theory of treatment by means of the electric current rests on a proper understanding of these properties.

THE POSITIVE POLE.

The positive pole has an acid re-action. It releases oxygen. It will stop bleeding and is therefore indicated in the treatment of a hemorrhage. It hardens the tissue, and so can be used for making the flesh firmer, as in the treatment for flabbiness. It is sedative, and hence is always indicated for use over painful surfaces or for treatments of strained muscles, wry neck, neuralgia of the face, head, etc. It is an acid caustic, leaving a hard unyielding cicatrix, and hence should never be employed for the purpose of removing a facial blemish. It is called a "vaso-constrictor" because it causes a constriction of the blood supply and is therefore useful in reducing the redness caused by an oversupply of blood to the surface. For this same reason and on account of the sedative action of the current, the use of the ball electrode after removal of superfluous hair, treat-

ment of acne, etc., is excellent not only for removing the soreness but also in reducing any inflammation.

THE NEGATIVE POLE.

The negative pole has an alkaline re-action. It releases hydrogen, as seen by the tiny bubbles of gas always appearing about the needle when the process of electrolysis is performed. It increases bleeding, and produces a hypersensitive condition, hence should not be used on a tender or inflamed surface. It liquefies and disintegrates, thus is necessary in the removal of hair, treatment of obstinate pimples, and removal of blackheads that refuse to yield to the ordinary pressure. It is an alkaline caustic, leaving a soft, pliable cicatrix. For this reason it is indicated in the work of removing all facial blemishes, as the danger of causing a scar is thus removed. It is a "vaso-dilator;" that is, it causes an increased blood supply and is thus excellent in any treatment for the face or scalp in which one is anxious to increase the circulation to that portion.

By remembering these facts in connection with the use of each pole the student can in a few moments' thought easily decide which one is best for active application. In short, the knowledge of the action of these poles means everything, for it can easily be seen that should the positive pole be used in a treatment in which the negative is necessary, the results would be exactly contrary to those desired.

Another point upon which the student should be informed is the method of testing the battery to see whether the polarity has changed. In the use of a wall plate connected with the lighting circuit, this is especially necessary. Hence, the careful operator will always be provided with the necessary materials and will invariably test her battery before applying the current.

RULES FOR DETERMINING POLARITY.

1st. Turn on the current, and immerse the tips of the conducting cords about an inch apart in a cup of salt water. Immediately the bubbles of hydrogen gas will form about the negative needle, or 2nd, moisten blue litmus paper with clear water and attach the tips to the strip. The portion that the positive pole touches will immediately become red.

Another rule that may be of assistance to the beginner is that for detecting the presence of the current itself. Often the beginner becomes confused and declares that her battery is not working, when by knowing how to test for the current, she could easily prove it.

HOW TO DETECT THE GALVANIC CURRENT.

Put one sponge, well wet in the palm of the hand, and let the other be held between the thumb and the first finger of the same hand. A slight pricking sensation will be experienced. Those only accustomed to the induced or faradic current will be disappointed to find that the galvanic current causes only a slight burning or pricking sensation, or when applied to the head a slight dizziness. A galvanic current that is too strong to be applied to the head can hardly be felt in the hand. Acute sensation or shock from the galvanic current is only experienced when the current is suddenly broken.

In the use of electrolysis, many points are to be considered not only in regard to the peculiarities of temperament and sensibility but also in respect to the work itself.

Rockwell says: "There is a great difference in the average susceptibility of different nationalities and of the higher and lower orders of society with occasional exceptions both ways. The tough, coarse-fibered laboring classes

are much less susceptible to electricity just as they are less susceptible to drugs than the delicate, finely organized, brain-working class."

Different sections of the same face also vary in this respect, the region about the mouth and nose being particularly susceptible, while the middle of the cheeks and chin can usually be operated on without any complaint. Another singularity is observed in the manner in which the current of the same strength affects the same person on different days. For instance, in the work of removing superfluous hair or moles, six cells may be easily tolerated on Tuesday when on Thursday only four can be borne with comfort, or it may be even necessary to increase to eight. Hence the careful operator will always do well to commence the treatment with as low a current as possible, gradually bring more into circuit, thus avoiding any danger of shock.

Ordinarily, however, it may be said that the average operator experiences absolutely no difficulty in this work, as for the one person who is extremely sensitive there will be found one hundred who do not in the least object to the use of the needle.

POSSIBILITY OF PRODUCING SCARS.

As the action of the electric current when used by introducing the needle into the tissues is to disintegrate and decompose, it may be easily seen that it will therefore be necessary to limit both the amount of current used, and the area of skin treated in order to avoid such a destruction of tissue as to leave a visible mark in the shape of a scar.

It is true that in many cases in which hair has been removed, the resulting scars have been quite as disfiguring as the hairs were originally, but in every instance of this kind,

the result was caused either by an *ignorant operator, or by an improper use of the electric current.*

It is also true that some tissue must be destroyed, but by care this amount will be so microscopical that only examination under a magnifying glass with a strong light will show any signs of the operation. This same statement applies to the removal of moles and to the treatment of pimples. In every instance where proper care is employed the result will be a skin free from any disfiguring marks.

CHAPTER XVIII.

THE REMOVAL OF SUPERFLUOUS HAIR.

Hypertrichosis, or an abnormal growth of hair, is the cause of more real heart-aches than any other defect of the skin. It may be congenital and consist of an unusual hairiness of the entire body, with of course the exception of the palms, soles and other regions where no hair follicles are to be found, or it may be local, as in the case of a hairy mole, a growth on the upper lip or chin.

The causes of this affliction are never apparent and the only really plausible or satisfactory explanation that can be given is that it is a freak of nature. In some instances the tendency to such a growth is certainly hereditary. In others, the face may be absolutely free from any sign of such a growth until all of a sudden a luxuriant growth appears, as though by magic. Some of the victims are found in excellent health, others are invalids. Some are married, others are maiden ladies of uncertain age. Some have used massage and ointments for protecting and beautifying the skin, others have never even thought of employing any aid toward beauty and only apply for relief from the growth of hair because they feel it to be a mark of masculinity.

In many instances this growth is only found as middle life is approached, and in some cases after the age of fifty, even without the aid of the electric needle, it has disappeared. In several cases that came under my observation, in which the growth was truly disheartening and was more of the nature of a beard, improvement in general condition and a trifling operation seemed to be factors in causing it to disappear.

Fox says: "The idea that sea-bathing or the persistent use of vaseline on the face will cause an abnormal growth of hair, is too fantastic for serious discussion. No proof of the assertion is ever shown, and how such an erroneous idea originated, is difficult to imagine."

In any event the only practical remedy is the removal of this growth by means of electrolysis, and in order to do the work successfully it will be well to heed the following suggestions. First of all, of course, is the question of the battery, and as explained before, this should never be less than twelve cells. Should the wall plate be used instead of the portable battery the procedure would be exactly the same excepting that of course the current used would be registered by the milliampere meter and care would be taken to use the lightest possible quantity to begin the treatment.

In addition to the battery there will be found necessary a pair of epilation forceps, a hard rubber needle holder, a magnifying glass, needles of various sizes, and, whenever the work is to be done away from the direct light, the head lamp.



Hard Rubber Needle Holder.

If it has been impossible to obtain instruction in this work the beginner who wishes to attempt the process will do well



Hard Rubber Needle Holder.



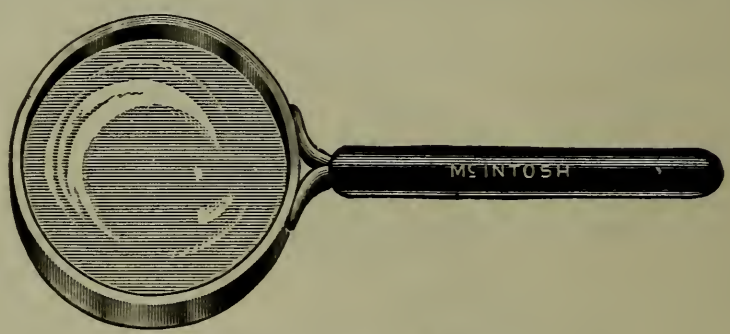
FIG. 21. Removal of Superfluous Hair by Electricity, Showing Negative Electrode and Forceps.

to practice first upon the coarse hairs found on the arms and hands of those inclined to this growth. The first trial will show that practice is the most essential point in good work, for not only a knowledge of the proper procedure is



Depilatory Forceps.

required, but also a sure eye and a steady hand.

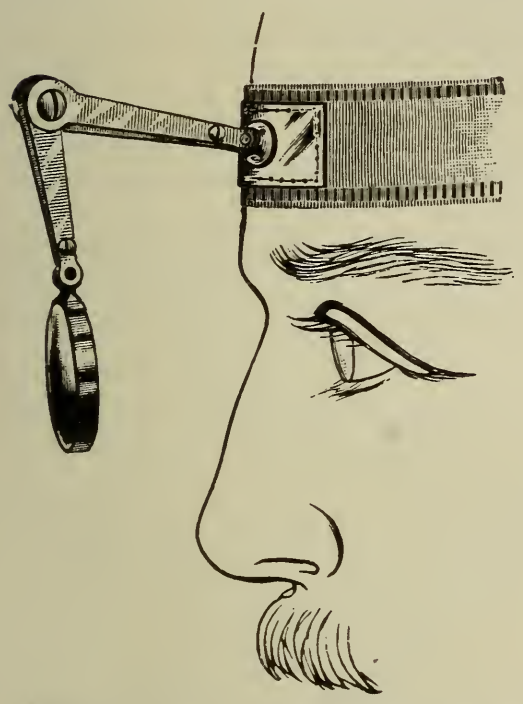


Magnifying Glass.

The patient should be seated in a comfortable position or possibly better still, should assume a nearly reclining position in such a manner that the direct light will fall upon the portion to be operated upon. The battery may then be brought into play and after the current is turned on to say four cells as a beginning, the patient may be instructed to hold the well moistened electrode, and the bulbous needle should then be passed gently down the side of the hair into the follicle. As shown in the cut on the skin there is a slight constriction at the mouth of the follicle, so many times this little impediment to the passage of the needle will occur. Ordinarily, however, the use of the needle causes the entrance to be effected very easily, and in fact it is by the sense of touch as well as by evidence of the eyes that

the expert operator knows she is doing good work. In Fig. B the needle is shown after it has entered the follicle, resting by the side of the hair.

The object in using a needle attached to the electric current is to destroy the tissue composing the hair papillæ. Naturally, a small portion of the surrounding tissue must be affected by the current, and the problem confronting the operator is how to remove the hair growth with as little destruction of tissue as possible. It has been found by experiment that the negative current is by far the best for this purpose, and hence it is always employed, as the effect on the tissue is not only less severe, but the danger of scarring is not nearly so great.



Magnifying Glass Mounted on Head Band.

Note—When the positive pole is used, it is essential that the needle be either gold (not gold plated) or platinum, as these metals are not attacked or corroded by the current. If a steel needle is used as the positive pole, a deposit of iron salt will be left in the hair follicle, and a black scar will inevitably result. An additional reason for giving preference always to the negative current is that negative electrolysis produces alkaline hydrates, destroys less tissue, and allows the needle to be easily withdrawn. Positive electrolysis, on the contrary, releases oxygen acids, coagulates the albumen, destroys tissue and causes the needle to

adhere, making it difficult to withdraw the needle without lacerating the tissue.

In order to destroy the hair, it is necessary to enter the follicle with a bulbous or pointed needle, the majority of the operators preferring the bulbous variety. The depth of the follicle varies greatly, in some instances being not more than one thirty-second of an inch, while in others it is fully one-quarter of an inch. In finding the follicle it will be necessary to insert the needle as closely as possible by the side of the hair. The difference in the sensation of touch when the right path has been entered is usually sufficient proof of success.

At any rate, when everything is in readiness the needle is inserted as directed, and is continued until it meets a slight obstacle. There it must pause, while the patient grasps the positive electrode in her hand, thus completing the circuit.

If the follicle has been entered, in about twenty seconds, bubbles of hydrogen gas will commence to appear about the site of entrance and in about fifty or sixty seconds the hair may be grasped by the epilation forceps and a gentle traction exerted. If the process of destruction is complete the hair will come out easily. If not, the current should be continued for about a minute and then the same effort made. If at this last attempt the hair does not consent to come, it will be well to remove it forcibly and then use the needle for still another insertion. This procedure will only be found necessary in a few cases as the expert operator is nearly always able to enter the follicle and thus dislodge the hair.

In many cases advice has been given to have the needle inserted before the patient grasps the electrode and to have



FIG. 22. Removal of Superfluous Hair by Use of Depilatory.

the grasp on the electrode loosened before the needle is withdrawn. In actual work this practice is neither satisfactory nor advisable. Many patients persistently loosen their grasp and thus interfere with the work and others become hysterical unless consulted each time before the hair is withdrawn. Hence the most practical manner is to have the electrode either held in the hand from the very commencement of the treatment or else placed on some indifferent portion before the treatment is commenced. Work on the coarse hair of the hands or legs will be excellent practice, before working on the face.

Aside from the regular equipment mentioned Fox says, "Good eyesight and a steady hand are as strictly essential as they are in rifle shooting. But many a man thus endowed can never acquire the art of repeatedly hitting the bull's eye, and many physicians I have found have failed to acquire the peculiar knack of introducing the needle into the follicle without pricking the skin. Some simply jab it into the skin as near the follicle as possible and thereby give rise to the erroneous impression that the operation is a very painful one and apt to leave scars."

THE SELECTION OF THE NEEDLE.

The selection of a needle is an important item in this operation, and the point should always be examined with a strong glass that we may be able to ascertain its shape. An ordinary jewelers' broach will do if the point be ground off on an oil stone and its temper drawn by heating, but the bulbous pointed needle, as recommended by the late Dr. P. S. Hayes, a magnified drawing of which is here shown in Figure A, is best suited for the work. There are several very important reasons why a sharp-pointed needle should

not be used: First, there is a depression in the epidermis at the base of every hair, very plainly shown in Figure B. The bulbous-pointed needle will always find this depression,



Figure A.

while the sharp-pointed needle is just as liable to miss it, and not get into the hair follicle at all. Again, the hair follicles are not always the same depth or the same direction, but the sheath surrounding the hair is tough; in fact, it takes considerable pressure to force the bulbous-pointed needle through, and it naturally will find the proper depth, while, as Dr. Hayes remarks, "the sharp needle would, in many cases, penetrate the walls of the follicle and wander into the tissue far from the desired point. and failure rather than success would be recorded." Many hairs are removed with sharp-pointed needles, and many writers advocate their use, but success is purely accidental. Figure B shows a magnified hair shaft and follicle into which a sharp-pointed needle has been plunged and has not entered the depression at the free surface of the skin, but which has accidentally penetrated the sheath from without and gained access to the papilla. Of course, such hair will be permanently destroyed. By referring again to Figure B, it will be noticed that the sheath is narrowest at the top or at the point of insertion of the hair shaft into the epidermis, which shows the necessity of



Figure B.

actually following the hair shaft with the needle in order to be certain of entering the follicle.

Again, the bulbous needle presents a larger surface within the hair follicles, the benefit of which is apparent.

The illustration—Figure 21—shows how the work may be performed.

Caution must be observed in several particulars in this work. and it may be well to impress upon the beginner that, first of all, it is wiser to use a weak current for a long time than a strong current for a short time. In removing hair it is never advisable to continue the current for more than a minute or a minute and a quarter, unless the hair is very coarse and bristly. Of course, in this instance it must be used as needed. Too many insertions in the same sections should be avoided in order to prevent an inflammation, thus making work impossible for several days. By using discretion in selecting different places upon the face the work may be continued for at least twice as long as where it is confined to one portion, and treatments may be given in this manner as often as every other day until the hairs are removed.

DESIRABLE CONDITION OF THE SKIN.

The skin should be as dry as possible, and if any moisture is present in excess it should be removed and the flesh powdered. If the action of the current seems too painful, the positive electrode may first be used for the purpose of forcing in a solution of cocaine. This is never desirable, however, excepting in the most extreme cases.

LENGTH OF TREATMENT.

As a rule no treatment should last for more than half an hour, as the strain is too great both on patient and oper-



FIG. 23. Applying Depilatory.

ator. About sixty hairs may be removed in an hour, unless they are extremely obstinate. No section of the face should have much work done on it at a time as there is danger of producing an extensive inflammation and thus preventing work for some time and, too, there is more danger of producing scars.

STERILIZATION.

Although some authors declare the current to be an antiseptic, caution should be employed in the work of sterilizing the needles, and it is never advisable to enter a pustule or small pimple and then attempt to remove the hair immediately afterwards, as there will always be danger of infection unless the needle is thoroughly sterilized between times.

DO THE HAIRS RETURN?

If the hair has been properly removed it is impossible for a return to occur, because the follicle has been destroyed. There may be other hair coming in near that same place or perhaps the hair will seem to have a tendency to multiply, but in no case has it been proved that the use of the electric current encouraged such a tendency. Women troubled with these growths are always much more sensitive and consult their mirrors so frequently and so closely after treatments, that they can see many discouraging symptoms not perceptible to the operator. In any instance, however, the proportion of returns can never be called higher than four per cent when a skilful operator has been employed. Oftentimes the new hairs coming in are a result of the patient's previous efforts to dislodge them some weeks or days before by means of the forceps.

AFTER TREATMENT.

At the close of the sitting the skin should be thoroughly coated with the zinc ointment and then the ball electrode covered with cotton moistened in salt and water and placed to the positive pole should be used for gentle though firm pressure on all the spots operated upon. The use of this electrode should continue for some minutes until most of the redness has disappeared. All the superfluous creme may then be removed, the vegetable powder dusted over the skin and the patient allowed to depart. In every case, though, she should be cautioned not to scratch or in any other manner to irritate the skin; not to use soap or water, but to use only the zinc ointment for cleansing and massaging. In this manner any danger of future trouble is avoided and, in fact, it may be said that this is the most effective manner of keeping the skin from looking at any time inflamed.

CHAPTER XIX.

TREATMENT OF MOLES, WARTS AND PORT-WINE MARKS.

Many times the operator is consulted in regard to the treatment of pigmented elevations of the skin, ordinarily known as moles. These deposits of pigment are by no means uncommon and may be found in many forms. In some instances the growths are like warts and are technically known as naevus verrucosus. In others they are level with the skin, but bountifully supplied with a hairy growth and are called naevus pilosus. Instances of this kind are reported in which large surfaces of the skin have been covered by a growth of this kind, giving the victim the appearance of an animal.

Then there are the large unpigmented moles without hair called fibromata, and oftentimes found with the other variety of naevi or by themselves and in many portions of the face are the vascular naevi of which there are many varieties ranging from the port wine mark to the disfiguring condition known as angioma cavernosum in which it is difficult to distinguish any other tissue.

The treatment of any of these conditions is, of course, by the careful use of the negative galvanic electrode in the shape of a needle suited to the size and kind of growth that is to be operated upon.

Many authors contend that when the marks to be removed exceed one-third to one-half an inch in diameter, a knife is preferable to the needle. This is, however, not the case when the needle can be used by a good operator with sufficient caution not to cause too much of an inflam-

mation, and with the willingness to give as many sittings as the case seems to demand. In one case in which there were 28 moles on one side of a face, two of them were fully one-half an inch in diameter while any number were from one-quarter to one-third of an inch across, the entire number were removed in the course of two months' treatment without leaving a single scar.

In all of these instances, however, the treatments were given with just current enough to show a decided reaction. The moment the growth was thoroughly affected the treatment was closed, the positive ball electrode was used all about the surface surrounding the growth and the zinc oxide ointment was applied freely and treatments were only given after every sign of inflammation had disappeared.

In another case the subject was afflicted by a hairy gowth fully an inch and a half long, just on the side of the cheek. Much care was exerted in the treatment of this form of naevus as the hair was very fine and abundant and had to be removed before the growth itself could be treated. However, at the end of the tenth sitting the growth had been reduced two-thirds, and after the fifteenth the hairs were all removed and nothing remained but a slightly elevated pink surface. By constant attention and applications of the zinc oxide ointment the color soon faded out and now it is only by the closest observation that one can distinguish a sign of a scar.

In still another instance the subject presented herself with a decidedly disfiguring growth right on the end of her nose. It appeared to belong to the family called naevus lipomatodes—that is the elevation looked like that of a small fatty tumor, only there were also present dilated capillaries.

Treatments were commenced by the use of the negative

needle as usual, but as the results seemed too slow, another needle was added and the negative needle was placed at the base of the growth parallel with the normal skin while the positive needle was of gold (so that it would not corrode) and was just gently touched to the top of the growth. The effects were seen very readily and the growth disappeared with remarkable and gratifying rapidity, leaving nothing but a very slight depression to mark the former site.

The treatment of any of these growths will be very much the same as in every instance the negative needle is the active assistant. In cases in which the presence of hair complicates the work, the hair must be removed first of all, and here it will be well to state that it is neither wise nor desirable to remove all the hair from any growth at any one sitting as the same rules that apply to other treatments with the electric needle hold good here, and so to avoid causing an extensive inflammation and a correspondingly great destruction of tissue, due caution must be observed.

After the hair has been removed in the usual manner, the needle should be inserted as near the base as possible, transfixing the growth from as many points as seem necessary. That is the use of the needle might be said to be planned on the idea of the spokes used in a wheel, always passing from the outside to the center.

In Illustration 24 the manner of giving the ordinary treatment will be seen.

When the growth is exceptionally large and the current does not produce a satisfactory reaction it is well to employ both needles in the work by inserting the negative needle at the base of the growth and using the positive at the top as in Figure 24.

In this work, however, one must always be cautioned



FIG. 24. Use of both Positive and Negative Electrodes on Same Growth.

about the use of the positive needle as it clings to the flesh and if a steel needle is used a deposit of iron salt is left on the flesh and a black scar will inevitably result. Hence the necessity in every operation of this kind for selecting either a gold (not gold-plated) or a platinum needle.

The length of the treatment will depend entirely upon the reaction observed and here it may be stated that as a general rule it is only wise to prolong the treatment until the growth appears to be thoroughly blanched and a tiny red line of demarkation may be seen separating the pigmented tissues from the other. In some cases this appears very quickly, in others takes a longer time, but in every case it is sure to be observed, and is the most reliable guide.

So, too, with the number of treatments. If they are given too near together, that is before every particle of inflammation has subsided, there will be an undue destruction of healthy tissue and a scar will positively result. If, however, care is observed in this respect and the time between the treatments properly arranged the results will be all that one could desire.

In any instance these rules are to be followed.

After carefully sterilizing the needle to be used, it will be introduced into the growth first from one direction then from another, and so on until the current has thoroughly penetrated and blanched the pigment. The subject in the meantime, will hold the positive electrode in her hand. As soon as the tiny line of demarkation is seen, or a decidedly pink hue is observed in the surrounding flesh, the treatment is stopped. the portion operated upon is anointed with the zinc oxide mixture, the surrounding flesh is treated with the positive ball electrode. In a few moments the superfluous ointment may be removed, the flesh powdered and the

patient allowed to depart with strict instruction to refrain from touching the growth in any way excepting to apply the ointment.

Should the growth treated be upon the neck or on some portion of the body where there is any danger of irritation, a cap such as used in covering the site of a vaccinated portion, should be employed to protect the subject from any danger of infection.

This, of course, applies only to growths of quite a size. The tiny growths sometimes found on the necks in great numbers need not be covered in this manner as very frequently just one treatment will cause them to dry away and disappear.

Oftentimes even large growths will require but two or three treatments, but ordinarily quite a number will be needed, and the conscientious operator will not hesitate to give her time as often as she finds it necessary. For this reason it is advisable in making a price for the removal of a mole to charge *not* for each treatment, but for the removal of the growth, whether it be necessary to employ one or one hundred sittings to affect the purpose.

Ordinarily no trouble will be encountered in giving a treatment. Occasionally, however, if the subject is supersensitive it will be well for the operator to hold the skin surrounding the portion operated upon between the thumb and first finger of one hand while she uses the needle with the other. This method is said to greatly lessen the sensation and is shown plainly in Illustration Figure 23.

Should any infection take place through the carelessness of the subject, there will be found a decidedly red, angry looking portion with a scab at the top of the growth that can easily be loosened. In any instance of this kind it

will be well to gently lift the side of the scab and squeeze into the cavity some peroxide of hydrogen, until every particle of pus has been removed. Then cover the portion with a wet dressing made by immersing gauze in a saturated solution of boracic acid and instruct the subject to bathe the part affected several times a day with this liquid. It is needless to remark in this connection that no further work can possibly be attempted, until every sign of inflammation has disappeared.

TREATMENT OF VASCULAR NAEVI.

Naevi consists of dilated and hypertrophied or newly formed arteries, veins and capillaries, usually covered with a normal epidermis and varying in color from the arterial naevi that are bright red to the venous ones of dark blue or violet.

The form called Telangiectasis is more commonly observed and is seen on the cheeks and nose consisting of a vascular overgrowth without an increase in connective tissue. The capillaries and the fine arterial and venous branches are involved, forming a simple stain of the skin or appearing as a net work surrounding a central spot called naevus araneus. The color varies from bright red to a bluish purple depending upon which of the arterial or venous branches preponderate, and the size is from that of an ordinary pinhead upwards. These Telangiectasis form a part of the most troublesome feature in acne rosacea and are very commonly observed in middle life, increasing and progressing as the patient progresses toward old age.

The most effective and satisfactory treatment is that in which the electric needle is employed and ordinarily this method is best. The patient may hold the positive electrode



FIG. 25. Growth in Neck Removed by Electricity in Fifteen Treatments.

in the hand, the skin surrounding the growth may then be held firmly by the operator between the thumb and first finger. Almost immediately it will be observed that in the central portion, the blood supply becomes much more evident. Into this portion the negative needle may be introduced and allowed to remain for some few seconds, possibly a minute. As it is withdrawn frequently there is a slight hemorrhage from the spot. This need excite no alarm, however, as it usually stops in a few moments. The capillaries radiating out from the center may then each be entered by the needle, using for this purpose a very fine one. The treatment may be finished as before with the use of the positive ball electrode and an application of the zinc oxide ointment.

Where the Telangiectasis are found on the nose the same treatment is indicated always firmly pressing the flesh between the fingers first in order to be able to determine the chief source of supply.

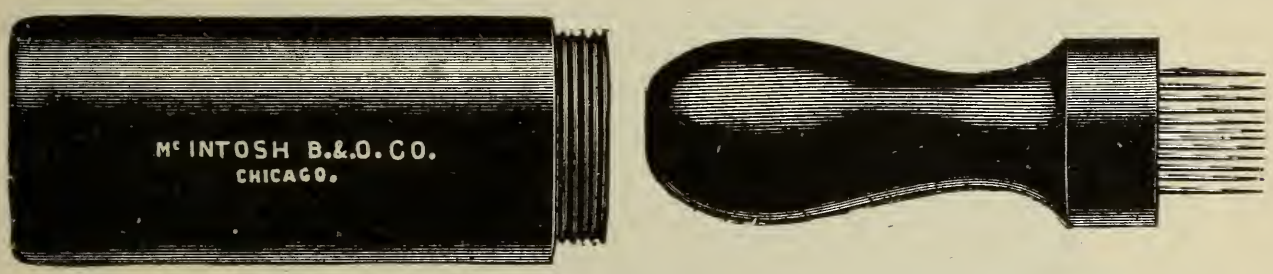
The strength of the current will vary from four to eight cells from the battery or from one-quarter to two and even more milliamperes from the wall plate usually gauging it by the amount the patient can endure.

In any case where the hemorrhage seems to persist an unusual time this can be avoided by reversing the current and inserting the gold needle attached to the positive electrode, when immediately the difficulty will be remedied.

The relief and improvement afforded to sufferers from this disfiguring condition by the simple use of electrolysis is such a reward that the enthusiastic operator frequently insists upon doing this work for her patients whether they desire it or not. Much superstition has attached itself to the subject of the naevus arenous or so called "spider

cancers" and so sometimes more than the ordinary argument will be necessary in order to convince the patient that no harm will be done.

Port wine marks can be removed by the simple process of tatooing the flesh. Of course, where these marks are so extensive as to cover a great portion of the face, sometimes it is wiser to resort to other means as in this case a white more or less scarred surface would certainly result. Ordinarily, however, the process can be used to great advantage. If the discoloration is small, the platinum needle may be



Needle Disc.
For the removal of "Pigmentary Nævus"
or wine marks.

used, attached, of course, to the negative pole. This needle should be inserted first in the center of the growth, and then at least five punctures should be made in the tiny capillaries which radiate from this source. Should the growth be larger, the second method may be employed. This calls for the use of the needle disc, and in this method the entire area is treated by a single application of the numerous points. In some instances, much blood escapes from the tiny apertures. This generally lasts but for a few moments, and is of no consequence. If, however, it seems desirable to alleviate this condition, the application of the positive electrode by means of a platinum needle will almost instantly produce the desired result.

IMPORTANT FEATURES OF AN OUTFIT.

The three features which are considered by most dermatologists in the selection of a battery and outfit for this class of work are, in their respective importance; Reliability, simplicity and portability.

The twelve-cell fluid battery must ever hold the palm for entire reliability, but there are many operators who will insist upon the convenience of the simple and more easily portable dry cell battery, and to all such we commend



McIntosh Dry Cell Electrolysis Battery.

the McIntosh dry cell electrolysis battery. In designing this battery all of these points have received due consideration. It is fitted with six Columbia No. 4 dry cells—cells which we have found to be the most reliable. With ordinary use and proper care they should last for from six months to a year.

DIRECTIONS.

The sponge electrode, well moistened, should be attached to one end of the conducting cord, and the tip on the opposite end of the cord should be inserted in the socket marked + (plus). This sign always indicates the positive pole.

The needle holder should be attached to the conducting cord and the free end of the cord should be attached to the post corresponding to the number of cells it is desired to use; post "1" for one cell, post "2" for two cells, post "3" for three cells, etc. It will be found that three or four cells are sufficient to perform any ordinary work. When both the sponge electrode and the needle come in contact with the patient the circuit is completed.

CHAPTER XX.

BLANCHING THE SKIN, DISCOLORATIONS AND USE OF FARADIC CURRENT.

A most mortifying condition, and one frequently encountered, is that in which the nose assumes a most decidedly red hue, varying from the lightest tint to deep purple. Close examination generally reveals a network of bright capillaries traversing the nose and cheeks for a short distance. The use of the electric needle is here found most excellent in results and it should be employed without hesitation. In this treatment the opinions of the various operators have been far from uniform, as some insist that the positive pole shall be employed, while others are equally firm in their praise of the negative. However, in actual practice, the author has found that the negative pole filled all requirements. It is best used by introducing the needle into the blood vessel and allowing it to penetrate a certain distance, then closing the circuit as usual by having the patient clasp the positive electrode in her hand. It is wisest to choose the largest vessel in beginning the work, as the destruction of this will also affect the tiny branches, and fewer insertions will thus be required. But a short treatment will be necessary for cases of this kind, and in no other trouble is the benefit more readily seen.

When the flesh seems reddened and inflamed without the dilation of the capillaries, much can be done by applying the electrodes over the affected part. The absorbent cotton is moistened before being placed in the electrodes, and the current may be continued as long and as strong as the pa-

tient can endure it. The skin will become extremely red after a time, and the burning sensation will be experienced. Ten minutes is long enough for a treatment, and for some time after it is ended the redness will persist, but will finally give place to a much lighter appearance for some hours. Treatments for this trouble should be given at least every other day for two or three weeks until the improvement has become permanent.

This work is especially beneficial after blackheads and pimples have been removed from the face, and it is necessary to improve the nutrition of the skin. In acne rosacea this method is much used and is extremely efficacious. Of course, if the capillaries are dilated they are to be treated as directed, and the bi-polar method used afterward.

In the use of the electrodes upon the face or near the head care must be taken, as in other cases, to commence with fewer cells, as some people are so sensitive that they complain of dizziness when electricity is used. If the patient is extremely nervous and is subject to headache, one of the electrodes may be placed at the back of the neck and the other upon the face, thus causing a general as well as local effect, and sometimes improving the physical condition as well as the nutrition of the skin.

HOW TO REMOVE DISCOLORATIONS.

Many times there will be a demand for something that will quickly whiten or bleach some portion of the skin, and the use of electricity has in such instances been particularly beneficial, for by its aid the substances to be employed may be forced into the skin, thus affecting directly the portions that require treatment. The most obstinate cases of moth patch and freckles have been speedily affected by this meth-

od when other means have failed, while in any process the results are more rapidly attained.

Experiments have proved that by moistening electrodes with certain substances and applying them to the unbroken skin, making the current sufficiently strong, the materials have been forced into circulation. For instance, concentrated solutions of sulphate of quinine and iodide of potassium can be detected in the urine thirty minutes after they have been applied to the skin. The amount detected after four or five hours is even greater, showing that the process has been going on steadily. In all of this work the idea is, of course, to cause the drugs to enter the circulation.

In bleaching the skin there is only a desire to cause the fluid to penetrate a certain distance in order to remove the discolorations. Great care must be taken to select liquids that can be used with the positive pole, as otherwise the work will be useless. The bleaching lotion mentioned elsewhere has been found most excellent for this purpose and may be used by moistening the cotton thoroughly and placing it in the positive electrode. The negative electrode may be used with cotton moistened with salt and water and held on some indifferent portion of the skin. At least fifteen minutes may be spent for each treatment and the current from six cells may be employed to begin with, gradually increasing them to ten as desired. Where the effect of a general bleaching is desired the current may be used longer, say twenty minutes, changing the poles, instead of using the positive alone, by substituting the negative occasionally. Treatments of this kind are better given after the water massage has been used, and will be found to be most effective when they are given at least three times a week. Mild discolorations may be re-

moved with greater ease and will demand far fewer treatments.

TREATMENT OF ACNE.

In the treatment of acne no method has afforded better results than the use of the electric needle when combined with the other necessary rules in regard to manipulation, diet and exercise.

By entering the pustule with the negative needle the cheesy substance often found in the centre of a pimple is dissolved or if pus is present it is liquified and can be forced out by use of comedone extractor. Then a much lighter pressure with the positive ball-electrode will reduce the inflammation, using acne creme for massage, after.

In work of this kind the current is employed of the same strength as in the treatment of moles, warts or any other growth, only oftentimes it is necessary to leave the needle in the pimple for some time before the desired results are to be obtained.

The use of the needle is found especially beneficial in cases where the pimples have a tendency to recur or appear in the same spots time after time.

REMOVAL OF BLACKHEADS AND MILIA.

In some instances there is experienced quite a bit of difficulty in dislodging large obstinate comedones or blackheads. In these the introduction of the needle will loosen them effectively and after pressure with the comedone extractor has removed them it is well to again introduce the needle into the opening for the purpose of thoroughly cleansing out any of the sebaceous matter. Some authorities have claimed that the use of a very fine platinum needle or pure gold attached to the positive pole and used after the

removal of blackheads, will have a tendency to reduce the size of the opening and in many instances this practice is advisable. In any event the treatment following the use of the needle will be the same as in the treatment of acne.

Many times the work of removing milia is hastened by the use of the negative needle in place of the ordinary needle. The process is the same as used in blackheads excepting that of course sometimes little difficulty may be experienced in entering the tough sac that incloses the cheesy matter.

TREATMENT OF ACNE ROSACEA.

In this disease in which the cheeks and nose both appear covered with the red, lumpy discolorations, nothing can give so much relief or improve the condition so quickly as the use of the electric needle exactly as described in the treatment of naevi, until the brilliant hue is reduced. As can easily be seen the negative electrode is used for the purpose of emptying the distended vessels and thus relieving the congestion, while the use of the positive electrode afterwards will be for the purpose of relieving the inflammation and for restricting rather than encouraging a flow of blood toward the spot.

Other treatment and the use of the acne creme is also indicated and in this trouble much attention should also be paid to the diet, as it is positive that any disturbance of the digestive tract shows itself almost immediately in the more inflamed condition of the nose and cheeks.

TREATMENT OF SCARS.

In the treatment of scars two methods are used. Some authorities utilize the positive electrode attached to the platinum needle, declaring that the resultant cicatrix is

imperceptible. Others use the finest of cambric needle and simply prick the center of each depression in such a manner as to bring it up nearly level with the elevation. In both instances the use of the positive current and deep massage as an after treatment will be found productive of excellent results. The author has found the most pleasing effects to be obtained by the negative electrode whenever it has been necessary to introduce the needle into the tissues.

CATAPHORESIS.

Cataphoresis is a process following closely the law of electrolysis, and thus whenever a suitable medicine is placed upon either pole of a galvanic battery the process of chemical decomposition or disintegration takes place and it is separated into its elements or "ions."

The "ions" that appear at the positive pole are called "anions", while those found at the negative are called "kathions."

This process is used for the purpose of forcing medicines or medicated liquids into the body, and is therefore very beneficial in the treatment of many skin diseases in which one is anxious to stimulate indolent glands or use antiseptic liquids without puncturing the skin.

The skin itself is a poor conductor of electricity and therefore the current enters it through the numerous openings made by the mouths of the sudoriparous and sebaceous glands. This peculiarity explains the great sensitiveness of the skin to the use of electricity. and also makes clear the reason why when an electrode is applied to the body, the current does not diffuse itself over the entire surface, but enters the glands where there is the best conduction and hence is capable of exciting more or less pain.

In applying the process of cataphoresis to the treatment of the skin it is quite necessary to know which substances have affinities for the different poles. Broadly speaking, nearly all the metals are kathions and hence appear at the negative pole, while the bases are electro-positive and are found at the positive pole.

In producing a local anaesthesia for relieving the pain incident to the use of the electric needle or comedone extractor this knowledge can be utilized by forcing a solution of cocaine into the skin through the use of the positive electrode wound with cotton and well moistened with this solution, while the negative electrode is held in some indifferent position.

As an example of what may be really accomplished by the use of this process the following simple experiment offers a very good proof. Some starch mixed with saliva may be held in the mouth while a solution of iodine applied to the negative pole is forced into the body. In a very few moments a blue discoloration will be observed, showing that the iodine and starch have combined.

The principles of cataphoresis are also exemplified in the use of the electrolytic water massage previously described. In this work the solution used is charged by electricity and hence is forced into the deeper tissues by this process, thus causing a marked improvement in the appearance as well as a great change in the texture of the skin. For instance, in the treatment of obstinate acne with comedones. The action of the soda solution aids in clearing away all of the fatty deposits while the electricity entering into the deeper tissues through the numerous openings stimulates the glands anew and aids in relieving the temporary paralysis caused by the presence of the plugs of sebaceous matter.

This result could not be obtained in any other manner, for the faradic current, while it has a stimulating action, does not possess the quality of cataphoresis.

In the treatment of various scalp diseases, in which the hair follicle itself has become diseased, and where one is anxious to use an antiseptic remedy the use of cataphoresis is again indicated and has produced some very remarkable results. This may be especially remarked in the treatment of dandruff, eczema, psoriasis and diseases in which the scalp has been so covered with foreign matter that the glands have literally starved. It is true that the use of this process will not produce a cure in a single day or a night, but when properly employed it will positively bring about better results than any other process heretofore indicated, and hence may be called the "rational method" for treating obstinate cases.

Chloasma is another cosmetic defect that has yielded especially well to the use of cataphoresis. In this trouble, as, in fact, wherever an excess of pigment is found, the source of the trouble is in the Malpighian or mucous layer, and hence the most practical treatment is one that can force a bleaching substance into the tissues. Should the affliction be caused by nervousness the use of electricity will surely aid in overcoming this tendency, the general health will also be benefited, while in short there is every indication for the use of this method and no reason for abandoning it.

In this treatment as described under the chapter on bleaching, the skin is first thoroughly cleansed and then the bleaching lotion applied to the negative pole is forced into the deeper tissues, continuing the work until the skin assumes a decidedly pink hue.

The treatments with cataphoresis should be given as

frequently as possible in order to obtain the quickest results, and it will always be found advisable to give short frequent treatments, rather than long ones some days apart. Once in a great while a sensitive skin may become considerably irritated, and will simply become a trifle painful and commence peeling. Of course, during this peeling process the treatment may be discontinued and resumed afterwards. Ordinarily, however, the trouble is not encountered at all if the massage afterwards is properly given and the face well protected by a good coating of vegetable powder before exposed to the air.

THE FARADIC CURRENT.

The faradic current, also called the induced, interrupted or extra current is that caused by rapidly interrupting a current passed through a wire from one or more galvanic cells. It was discovered in 1831 by Faraday, who proved that a current passed through a wire induced a current in another wire nearby and parallel to it. The wire through which the galvanic current passes directly is called the "primary wire," while that through which the induced current passes is called the induced or secondary wire. The currents from these wires are always indicated on a battery by the two letters P and S, meaning primary and secondary.

This current though commonly used is but little understood, and in fact not one operator in a hundred understands the difference between the two currents other than to state the "galvanic current is noiseless and can be used for removing hairs, while the faradic current buzzes and may be used for massage of the scalp and face."

Then, too, the fact that it takes a number of cells to

produce a galvanic current that can barely be noticed, while only one or two cells are needed to operate a faradic coil that will give more current than a person can bear, is another source of amazement. Hence, the necessity for making the subject as clear as possible.

The reason for the increased force of the faradic current is found in the winding of the wires surrounding the bar of soft iron or magnetic core.

A faradic current is always made by surrounding a soft iron core with a primary wire. This is then insulated, that is, covered by a non-conducting substance and a secondary wire is then wound about it. An automatic hammer is also used for interruping the current from the battery cells. When the current is turned on it goes through the primary to the magnetic core. The iron core then becomes magnetized and throws out lines of force permeating both the primary and secondary coils. The greater the number of windings in the coil, the more powerful it becomes, though the quantity of the current will be correspondingly lessened.

The primary current, therefore, gives more current and less force whereas the secondary current gives less current and more force. The excellence of the coil depends entirely upon the care with which it is made. A good faradic battery must have a good primary coil with enough wire to thoroughly magnetize the core and secondary wire much finer and longer while the interrupter should be so constructed as to vary the number of interruptions from a very few interruptions up to many thousand a minute.

The applications of the faradic current are based upon the general assumption that the current is a general tonic in its nature, and is therefore highly stimulating.

The interruption of this current produces muscular

contraction, not only of the muscles, but also of the contractile fibre cells, thus the circulation is stimulated and with it the processes of waste and repair.

A simple experiment showing the action of the faradic current may be easily performed by anyone who cares to make the effort. The arms should be bared, and the current turned on, the subject grasping both electrodes, one in each hand. As the force of the current is increased it will be observed that the muscles contract and the blood vessels become far more prominent, showing that the circulation is directly affected by the use of faradism.

Rockwell cites some interesting experiments with faradism which prove the tonic effects.

He subjected a certain number out of a litter of puppies to the faradic current while an equal number were left untreated. At the end of four weeks the puppies were weighed, and not only was there a decided gain in weight on the part of those that had been subjected to this process, but in general appearance they were also more attractive and appeared far stronger.

He also states that "the permanent effects of the use of electricity on the person of the operator are"

First, a marked and sometimes rapid growth of the muscles of the arm caused by the muscular contractions and increase of the local processes of waste and repair, etc.

Second, a very gradual but decided tonic influence on the system.

In the work of the dermatologist as the faradic current is so generally in use, it is quite possible that the tonic effect of the current when passed through the arms in this manner may also aid in making her work less arduous.

In practical work the faradic current is generally em-

ployed by passing it through the fingers of the operator as shown in illustration on page 201. In this it will be seen that the subject holds one electrode while the other—or wrist electrode—is fastened about the wrist of the operator and in this manner the current passed through the finger tips onto the face.

It can also be used or applied by means of any of the metallic electrodes first covered with moistened cotton. It may be employed when considered advisable in connection with the electrolytic massage cup. It is very frequently used in the treatment of the scalp by means of the hair-brush electrode and is excellent for work in filling out the hollows in the cheek, neck or in the effort to develop the bust.

In using this current it must always be remembered that the effects are almost purely mechanical, the primary current giving, it is true, some of the galvanic effect, but to a very limited extent, while the secondary current gives still less.

It is a very desirable aid in treatments and fills a decided want, but as its action is more or less limited it should preferably be used in combination with the galvanic current either after a treatment, before or else by means of a process combining the two.

THE COMBINED CURRENT.

In this method the attachment is made by connecting the cord from the negative pole of the galvanic portion to the primary of the faradic. The two other cords are then used by inserting them one in the binding post marked positive and the other in the one secondary of the faradic. The current may then be turned on as usual and be added or decreased by bringing into circuit more of the galvanic cells.

This process is recommended by Rockwell as a method "in order to secure the advantages of both currents and at the same time avoid the trouble and inconvenience of employing them in succession or alternately."

In practical work it has been employed by the dermatologist more for the purpose of stimulation, such as in the work of bringing new life to the hair and more vitality to the scalp, for use in the work of developing the arms and neck and bust and for filling out hollows.

In all of these treatments it is well to use the moistened hand as an electrode as the effect is far more pleasurable.

USE OF ELECTRICITY IN MASSAGE.

In massage of the skin, where there is a desire to stimulate, the faradic current is usually employed. In addition to the desired effect there is a pleasant tingling sensation, which to many people is really most soothing. Neuralgic pains of the face and head are quickly relieved by this current, while nervous headaches vanish so speedily that the cure seems remarkable.

The faradic portion of the battery is used much as the galvanic section. The current is produced by immersing the plates in the solution, and the fact that this portion is in working order may be told by the humming, buzzing noise that commences as soon as the plates are in position. The current is utilized by attaching the conducting cords to the posts marked P and N and increasing the strength if necessary by extending the little shield that projects from the right of the coil.

In massage work the patient holds one electrode in her hand, while the operator fastens the cord to her wrist electrode. The current thus passes through the fingers

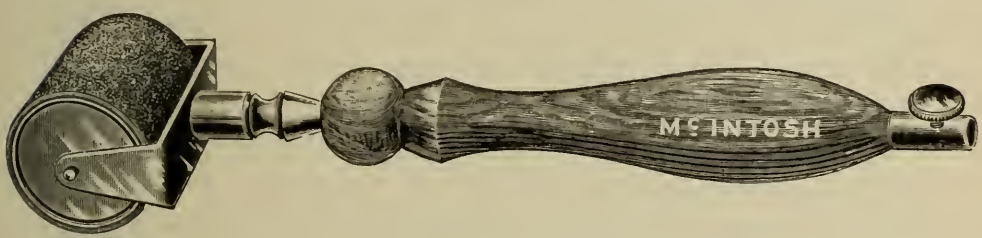
of the operator to the face of the patient. The directions in the rules for massage may be observed here, being careful not to extend the use of the current for longer than twenty minutes at any time.



Wrist Electrode.

A way of uniting the cleansing and stimulating treatment in one operation may easily be practiced by the use of the same apparatus just as described and applying the water massage at the same time. This can be easily done and is considered an exceedingly beneficial treatment. The current used in this method will need to be very light, as otherwise the shock will be too great.

The massage roller may be used by attaching



The Massage Roller.

it to the conducting cord and applying as it may most be needed. Of course, in all of this work the positive pole is the one to be applied to the skin for the purpose of stimulation, while the negative electrode is either held stationary upon the skin or is clasped in the hand.

The faradic current is also employed with very pleasing results in the treatment of the scalp, and here it acts as a most reliable tonic, promoting the growth of the hair to a remarkable degree and improving the condition of the

scalp. In the use of the electric hair brush if the bristles seem a little too sharp and the patient is sensitive, the tips of the fingers may be used on the scalp after the wrist electrode has been connected. In this way the current will have a milder effect.

There are many other ways of using these currents, but as each operator has her own particular class of people to treat, she soon becomes accustomed to the methods best suited to her work and uses nothing else. In the use of electricity the same rule applies and only experiment and study can teach which is best suited for her purpose. With the experience acquired through persistent application and study any clever woman can soon achieve marked success in this field.

CHAPTER XXI.

THE CARE OF THE HANDS.

The woman who wishes to preserve the beauty of her hands can easily do so if she will devote at least five minutes a day to the work of attending to them. This will, of course, be in addition to the weekly manicure, for in actual care the attention of a professional will be secured at least as often as this. It is said by close observers that hands show the beginning of age much sooner than the face, and that it is by this fact alone that many women otherwise beautiful have been unable to deceive their acquaintances in regard to the number of years that have flown. The flesh becomes flabby and withered in appearance, brown spots appear and the joints look as though much larger than formerly, simply from the falling away of the skin and the formation of the many folds. Care will remedy these defects to such an extent that a really fine-appearing hand may be preserved even in old age, hence the fastidious woman will do well to arrange for the expenditure of the necessary minutes each day if she wishes to maintain a reputation for youthful appearance.

In reading of a beautiful hand the mind naturally pictures the ideal of the artist, with firm white flesh, long, tapering fingers, delicately tinted, filbert-shaped nails and soft, pink palm. A pleasing vision, indeed, but one seldom seen, for the model hand is nearly as rare as the model foot, and the majority of people must be contented with one that will at least not be classed as "impossible," even if it cannot be called beautiful. A great authority has said that the

truly patrician hand can only be found when there have been generations of noble ancestors. The student of palmistry can easily contradict this fact, for experience proves that very frequently people of the humblest parentage possess hands so perfectly molded that the noblest might well long to possess them. The earnest thinker and close observer has never been found with a hand of this type, neither has the successful or ambitious business woman. The idle dreamers or artistic souls are usually those who claim the ideal hand, and it is well that this should be so, for they deserve some compensation for being so useless from a practical point of view.

The time to change or improve the shape of the hands, fingers or nails is that of infancy, and the careful mother will see that the tiny finger nails are treated with due attention. Infants who show a tendency to keep the fingers in their mouths not only change the shape of the finger and alter the beauty of the nail, but also spoil the mouth as well. This tendency may be checked by applying a solution of quinine to the tips of the fingers. As they grow older the tiny finger should be rubbed with oil, the cuticle pressed back with an orangewood stick and the nails trimmed carefully that they may be encouraged to grow long and slender. Biting of the nails must positively be forbidden and if necessary stringent measures taken to prevent the practice. Children should also be taught how to care for the hands and how to prevent the rough, red appearance so universally seen in childhood. It can hardly be argued that a child will not enjoy the playtimes as well without these bleeding, raw surfaces as with them, and by a very little work the habit may be formed that will be successful in preventing this condition.



FIG. 26. Use of the File.

The greatest amount of trouble comes because not one person in a hundred is taught to wash the hands properly. Soap is a cleansing medium made of alkalies and fats. Combined with water a lather is formed that cleanses the skin. Allowed to remain on the skin and become dry, the alkali keeps on actively irritating the cuticle and the result is shown in the reddened and coarse surface. Soaps for cleansing purposes, such as the common household soaps, are invariably strongly alkaline and should never be used to remove soil from anything less delicate than woodwork. The mixture for the hands should be as nearly neutral as possible, and a soap of this description will not make much of a lather. Children should be taught that after the hands are cleansed by the action of the soap and water they should be rinsed off well in clear water and then carefully dried. If they are at all inclined to become chapped or irritated each time after the washing process, a little jelly may be rubbed in well and the hands dried as usual.

A very good mixture for this purpose is called Rose Jelly. It is easily made and will be found excellent for general use.

ROSE JELLY.

Mucilage of Irish moss	2 ℥
Glycerine	3 ℥
Extract witch hazel (dist.)	2 ℥
Cologne	1 ℥
Borax	30 gr.

Dissolve the borax in the witch hazel, mix with half of the glycerine and cologne and add oil of rose sufficient to perfume. Mix other part of glycerine with mucilage and

then stir slowly into the part first prepared. After allowing it to stand three hours, strain and it will be ready for use.

This jelly when properly made will not have an oily effect and will dry in immediately. It is best applied while the hands are still damp. At least once a day after the hands have been thoroughly cleansed the cuticle should be pressed back with an orangewood stick and the nails thoroughly rubbed with chamois skin. By folding this over the first finger it may be made into a most excellent buffer for polishing, using it alternately on the first finger of each hand as it may be required for polishing the nails of the other.

Women of leisure and wealth rarely either require or need advice as to the care of their hands. It is those who are so occupied that they cannot take time to consult the expert or to those who are situated away from large centers or those, who though possessing the inclination, have not the money to spend on this work, that these lines will be most welcome. The woman who does her own housework may not always admit it, but the one great disadvantage that fills her with dismay is not so much the labor involved as the unsightly appearance her hands present.

Much of this difficulty may be avoided not only by care in the use of soaps, and in cleansing the hands, but also by efforts made to save them from all unnecessary trials. For instance, in washing dishes, hand mops can be purchased that will do away with the necessity for keeping the hands in water so long at a time. Rubber gloves are also a wonderful aid in this respect. When the work of sweeping or other heavy labor is to be done the soft palms should be protected by an old pair of gloves, very loose and soft

enough to prevent callous lines from appearing where the seams are joined. In every part of domestic arrangements much may be done by expending a little thought to make the demand on the hands very much less.

When the hands are very red and appear swollen, physical culture will do much toward overcoming this proof of poor circulation. Tight lacing is now so little practiced that few women are guilty of undue compression, otherwise it might be mentioned as a frequent cause of the trouble mentioned. Another difficulty equally embarrassing and one more difficult to cure is that of undue perspiration, in which the palms are constantly moist, ruining any gloves the first time they are worn, and making the act of shaking hands a positive torture. This last trouble may frequently be entirely cured by dusting this powder over the palms each time after washing them.

DUSTING POWDER.

Boracic acid	1 ℥
Alum (powdered)	2 ℥
Salycilic acid	1 ℥
Talcum	2 ℥

Mix together and sift through several layers of bolting cloth until ready for use, then dust on as required.

Cosmetic mittens worn at night do much to soften the hands and make them presentable, but if the work during the day is extremely trying, it is often unwise to attempt wearing them, as the hands are made so much more tender that they become rough more readily upon immersion in soap and water. For those who have no particular demands upon them for undue exertion the use of the mittens each night will certainly do wonders. They are prepared in a



FIG. 27. Use of the Orangewood Stick.

number of ways, and there are numerous recipes for the paste-like mixtures, but none of them are better than the one that follows:

WHITENING PASTE.

Rub into one pound of honey enough of the powder of almonds to make a stiff paste, and then add gradually the whites of eggs until six have been used. Stir in twelve ounces of almond oil, six ounces of solution of alum (saturated) and four of borax. Mix well, and if too thin add more almond meal. This is to be used by spreading upon the hands at night and then drawing on large mittens or loose gloves to protect the clothing. Another method is to spread the paste on mittens before applying, but the effect is more uniform if spread directly upon the hands.

In the morning wash off with warm water, and before the hands are entirely dry rub in the rose jelly.

At no time will hands appear to worse advantage than just when they should look the best. This is invariably the case on the occasion of some dinner or state occasion where these important members must be decidedly in evidence. More than one woman has shed bitter tears as the last moment approached and the red or discolored appearance was as obtrusive as ever. A remedy that may be applied to very good advantage will doubtless be appreciated by those so bothered. This creme is too startlingly white to be used on the face, but may be rubbed in the hands whenever the occasion demands, with the happiest of results. It is best applied immediately after cleansing the hands well with soap and water, and is easily prepared. A clever woman who used this preparation with the happiest of results declared that to those who were obliged to resort to anything

of this kind the only appropriate term for this preparation was the Slave's Delight. It is made by sifting the subnitrate of bismuth into the blended oils and then stirring until smooth.

DISGUISE FOR RED HANDS.

Almond oil	4 ℥
Lanolin	1 ℥
Spermaceti	1 ℥
White wax	1 ℥
Subnitrate of bismuth	1 ℥
Oil bitter almonds	10 drops

In addition to home care every woman who can afford it employs the professional manicure at least once a week and oftener if necessary. The treatment when given by one who thoroughly understands the art is so pleasing that the expense of the work is but a small consideration. There has been a tendency of late years to make the fee for this work less. When one stops to consider that a good manicure cannot be given in less than one hour, to say nothing of the amount of material that must be used during the process, the complaints against the first-class professionals who persist in charging living rates will be heard with less patience. A thoroughly good treatment will consume the greater part of an hour, besides involving the use of much material, and, if the work is to be well done, the remuneration must be in proportion.

The instruments necessary for this work vary, as used by the different schools of manicuring, but should always consist of at least those in the following list:

1 package of orange wood sticks.
2 buffers.
2 scissors.
2 files.
1 package emery board.
1 box polishing powder.
1 box ointment.
1 box fine pumice stone.
1 bottle cleansing liquid.
1 cuticle knife.

The best professionals generally commence the treatment by trimming the nails and shaping them on one hand, while the other is placed in warm soapy water. After a few moments the hand that has been soaked is taken in charge and the nails are brushed vigorously with the small nail brush and soap. The cuticle knife is then used for pushing back the flesh that has encroached upon the surface of the nails, and the orange wood stick is employed to push back the skin at the base of the nail. If the under part of the nails seem much discolored, a mixture of pumice stone and cleansing liquid, such as ongaline, is placed all about the selvage skin, just inside the nail, and allowed to remain for a time. During this process the second hand should have been soaking and should be ready for the work just described.

The first hand is once more ready for treatment and the work of removing the pumice stone is now commenced by the use of the orange wood stick. If there is still discoloration in any nail the mixture must be replaced again. A bit of the polishing powder is then sprinkled upon the buffer and the work of imparting the gloss is commenced.



FIG. 28. Use of the Stick Polish.

In this, care must be taken to avoid heating the nail and the strokes should be given in a leisurely manner. After the polishing with powder has been finished, a little of the white or rose colored ointment is rubbed on the nail, more powder is placed upon the buffer and the work again resumed. When the nails seem uniformly polished the hand is again placed in water and scrubbed well with the little brush. Examination now reveals the presence of roughness under the nails and perhaps several places where the cuticle needs attention. The emery boards are used for removing roughness under the nails and hang-nails that have not succumbed to the trimming given by the scissors are again retouched, and then the polishing or kid buffer employed to give the final touch. The results should be nails finely polished, delicately pink in appearance and well shaped, with no bleeding surfaces to make one feel that the tools had been more vigorously than wisely used.

The other hand is then cared for in the manner indicated, but this time the first hand is not returned to the water, but may remain on the table until the next step is taken. This consists in using the pencil polish as shown in the following illustration. The end of the pencil is moistened by water until the nail may become nicely coated, and then the buffer is used immediately for polishing it. This process is shown in the last picture and is easily done. The pencil polish gives a beautiful lustre and, as it appears immediately, it is far better for the nails than one requiring so much buffing. If the nails are at all obstinate, a second application will be rewarded with success. Of course, the other nails are treated in the same manner, and this concludes the giving of a perfect manicure. This polish is most excellent for a tonic as well as a beautifier and will be found



FIG. 29. Use of the Buffer.

a boon in this respect, for nails covered with white spots or deeply ridged, are apt to be sources of mortification.

By adopting these rules they may be cured. For white specks always follow directions as given for manicuring, and in addition, melt equal parts of myrrh and pitch in a cup and hold the nails in this mixture for some moments. Repeat each day for five days.

For ridged nails take two ounces each of lanolin, petrolatum, almond oil, one ounce of myrrh, and one-half ounce of tincture of benzoin. Melt together and hold the fingers in this mixture as long as possible until the nails become thoroughly softened. Do this every day for a week, and avoid use of powder or enamel in any form for polishing.

The use of the scissors excepting in removing hangnails or in clipping nails that are too long to file is but a small item. The best operators all employ the orange wood sticks whenever it is possible to do so, and they have them of all shapes and kinds. The cuticle knife is used most cautiously so that the enamel of the nail may not be injured while any acid that must be applied to remove stains is managed most warily, lest other trouble comes of it. The files are used as the case demands, the dainty velvet file doing the fine work after the heavier one has removed all portions that are not needed. The use of the cuticle knife beneath the nail should be avoided if possible, on account of the danger of injuring the under surface and making it rough.

The woman in business will hardly bother about preparing any of the articles needed in her work, as she can economize both time and money by purchasing those already prepared. Others who may wish to do a little of this polishing and shaping at home may wish this recipe for a polishing powder:

Yellow oxide of tin (powdered)	2 ʒ
Venetian talcum	1 ʒ
Petrolatum	1 ℥

Rub the petrolatum in with the talcum and then rub in the oxide of tin and sift through a fine bolting cloth.

The liquid for removing stains and for whitening the nails may be made by mixing these ingredients:

Dioxide of hydrogen	3 ʒ
Lemon juice	1 ʒ
Ammonia	1 ℥

The tinted cream may be made by adding a few grains of carmine to the recipe as a disguise for red hands, or if the rosy tint is not desired, the white cream itself may be employed. These simple substitutes are most efficacious in the hands of intelligent workers and may be recommended as at least being harmless.

CHAPTER XXII.

REFINING AND DEVELOPING ARMS, SHOULDERS, NECK AND BUST—USE OF DEPILATORY—VIBRATORY MASSAGE.

There is little excuse in this progressive age for the possession of scrawny necks, round shoulders, poorly developed busts and skinny arms. True, physical culture alone may not be able to more than fill out the hollows, but unite this system with massage and the use of the various ointments for refining the coarse skin, and the change will indeed be most marvelous.

A beautiful arm should be softly rounded, smooth and white, and should taper gradually to the hand. Many of the skinniest and roughest arms have been made over with marvelous success by the following method:

First, of course, comes exercise in the open air, playing games such as golf, tennis or croquet, and the use of the system particularly directed to the work of remedying any deficiencies that seem the most strongly marked. The cosmetic treatment will, of course, depend upon the condition of the skin, and if it is rough and covered with flesh that looks pimply, the work can be hastened greatly by bathing each night with warm water and paste soap, using washcloth of coarse variety to cause more friction. The arms may then be rubbed well with a good tissue food or creme celeste, using deep massage for at least fifteen minutes. In the morning cold water baths may be taken, and the massage treatment continued for at least three weeks. At the end of that time the roughness should have subsided sufficiently to allow a change, and this lotion may be applied each night:



FIG. 30. Showing Action of Depilatory in Section of Arms. Smooth Places Indicating Effect in Removing Strong Hairy Growth.

Rose water	6 ℥
Tincture benzoin	1 ℥
Oxide zinc	1 ℥

Shake well and apply with a sponge and allow it to dry in thoroughly before rubbing; then commence the massage without ointment for a few minutes each night. By the end of five or six weeks there should be a marked improvement.

When, in addition to being skinny, the arms are also covered with wiry black hair, the treatment is more difficult, for it is impossible to disguise the condition sufficiently to allow the use of short sleeves or evening dress. Hence the choice must be made between these two methods: The first consists of using a depilatory from time to time and thus removing the hair completely for a temporary period; the second is by using enough peroxide of hydrogen to thoroughly bleach the hair so that it will hardly be noticeable.

In the use of the depilatory as shown in Illustration 22 where the operator is observed spreading the paste upon the lip, it must be carefully applied so that the entire surface is covered. Then it should be allowed to dry and then a bit of cotton slightly moistened in water should be patted gently over the sections treated until the paste is sufficiently softened to yield to the scraping motion of the spatula, as shown in Illustration 22. For use in removing the hair on neck and arms a depilatory is really the only feasible thing and when the use of this article is combined with the occasional application of peroxide it is said that the most stubborn growth will in time be eradicated.

When the growth is very coarse and dark, the depilatory should be applied every week for three weeks. After this every two weeks for two months and after this once

in four or six weeks will be found sufficient to keep the hairs from becoming too apparent.

In the use of this liquid or semi-paste-like depilatory, *care should be taken to shake it well always before using* as otherwise the caustic quality of the liquid might irritate the skin. If the skin is at all inflamed, though this is rarely the case when a good depilatory is employed, a skin food or soothing creme must be employed immediately afterwards and the use of soap and water avoided for several days.

Every operator has calls nearly every day in the week from some suffering mortal so afflicted with a growth of hair on the arms that she looks like an advertisement for a hair-tonic of some kind. The real gratitude evinced by people so afflicted when assured that they can be quickly relieved of such a disfigurement is in itself an incentive to every operator to learn just how to remedy such defects. True, the hair will return after the first application, just as the weeds in the garden will grow, no matter how much they are discouraged, unless systematic work is kept up; but if the vigilance is not relaxed and the interest is maintained, victory is always assured.

If the peroxide treatment is used, the arms must be washed first with soap and water, then with a solution of soda and water, to take away all traces of oil that may be upon the skin. Then a mixture of peroxide and ammonia may be applied by means of some cotton or a soft cloth. This may be continued until the hairs are sufficiently bleached, and if the first treatment is not sufficient to accomplish the purpose, a second may be taken. The proportion of the two liquids should be one of ammonia to six of peroxide, and it is said that a continued use will make the hair so brittle that they will fall out, and in time cease to

reappear. At any rate the bleaching process makes them much less conspicuous.

Deep massage is much used for toning the muscles of the neck and shoulders, and applications of various ointments and lotions are often necessary in order to make the skin look well. The best formed neck can never appear to advantage if its beauty is marred by the appearance of a deep mark of dingy hue encircling it, and this is an occurrence that is only too common. The cause is, of course, found in the stiff neckwear, either of linen or any other material that encircles the throat closely.

The cure is first of all in abolishing anything but soft ribbons or other substitutes that will look as well. Next, in using a whitening creme each night for massaging the skin and last of all in applying a bleaching lotion until the discolorations have vanished. The use of cloths saturated in peroxide of hydrogen after the water massage is also excellent as an aid in hastening the process of whitening the skin.

The sagging of the flesh directly under the chin may, of course, be prevented by the use of proper massage, as illustrated in Figure 9, while the mallets may also be employed to advantage for the same purpose, and exponents of vocal culture declare that the proper use of the muscles in singing will be of great use for this purpose. The process is a trifle expensive, however, for those of ordinary means, so massage and exercise will generally be called the best aids.

The hollow spaces found about the neck and shoulders almost inevitably yield to exercise unless the individual is extremely emaciated. Applications of a nourishing skin food and the use of the deep plucking massage are extremely beneficial, while above and beyond all may be mentioned



FIG. 31. Removing Hollows from Neck.

the use of the breathing exercises mentioned in another chapter. The shoulders of perfect beauty are usually an inheritance, for they should form a continuous curve from the neck to the arm, with no sharply defined departure to make the change. Physiological development will do much toward improving the carriage and toward broadening the shoulders, but of course cannot entirely change the original form.

If the skin should be rough and covered with small red pimples, a state frequently common during the summer months, the following treatment will be found most beneficial. First of all, a course of sulphur baths, followed by the application of this paste each night.

Honey	1 ℥
Alum sol.	2 ℥
Whites of eggs	2
Carbolic acid	1 ℥
Almond oil	2 ℥

Almond meal sufficient to make a paste.

In the morning this paste may be removed by the use of warm water and a mild soap, and this lotion applied:

Rose water	6 ℥
Lemon juice	1 ℥
Borax	1 ℥
Alcohol	1 ℥
Glycerine	1 ℥

One week of this treatment should get the skin in very good condition, though if it is very rough it will also be necessary to use massage as well before the paste is applied. If necessary to appear in public in evening dress before the



FIG. 32. Enlarging Bust by Vibratory Massage.

skin has become smooth enough to look as it should, the whitening creme may be applied and rubbed in energetically and then powder dusted on. Many famous beauties invariably use a creme of this description as a preparation for an evening toilet.

The development of the bust is a matter that creates much interest, for the woman who is thin declares, to be happy, she must be larger, while the over-developed one longs hopelessly for a decrease. The perfectly developed woman is, of course, neither one nor the other, but just right, and there should be approximately a difference of about ten inches between the size of the waist and the bust, and practically the same difference between the hips and the waist.

Proper exercise, bathing and light massage are the best remedies for increasing the measurements, and if due care is taken, there will be few poorly developed women aside from those suffering from physical weakness. The use of the many glass arrangements and metallic attachments advertised for this purpose cannot be too strongly condemned. In the hands of specialists they may do some good, but as a rule they are harmful beyond belief, and may produce permanent injury when applied by the novice. Massage of the breasts should be most carefully done, after washing them with warm water and applying a good skin food. The movement should be performed with the flat portion of the hand, rubbing in a circular fashion, around and around, and finishing with a quick dash of cold water. Deep breathing exercises will also be of great benefit, and those who have been able to take swimming lessons claim they can see a wonderful difference as a result. Electricity may also be employed to advantage by using the faradic current for fifteen minutes daily.

In this connection the use of the vibratory massage taking care that the speed is not too great, and using discretion in applying pressure, will often be found most excellent for the purpose not only of increasing the size of the breasts, but also for making the hollows in the neck less apparent. As shown in the illustrations the treatments may be easily given, and when coupled with proper finger manipulation and the use of nourishing ointments will be found really of much benefit, though of course it must be remembered that just as "no rock is so hard but that a little wave may beat admission in a thousand years," so no case is so hopeless but that the proper treatment will really make an improvement.

The reduction of the breasts desired by overly stout women should never be attempted by the amateur, for there is too much danger of causing some injury which may later develop into a malignant growth, as this portion of the body is peculiarly susceptible to trouble of this kind. The use of bandages wet in solutions containing lead have been much in vogue and cannot be too vigorously forbidden, as the absorption of this poisonous material into the system is even more dangerous when applied upon this part of the body than when used on the scalp, as in hair tonic, etc. If something must be done, the afflicted one may try bathing the parts with a solution of tannin and alcohol—ten per cent of tannin being the quantity used—and following with a light massage and cold water. This method may in time take away the superfluous flesh and will at any rate be harmless.

CHAPTER XXIII.

THE MOUTH AND TEETH.

The woman who is fortunate enough to possess a beautiful mouth, of medium size, with an upper lip bowed, and moderately thin under lip, both fresh in coloring, can never be altogther unattractive. If in addition to this important feature she owns a set of sound, white teeth, she is indeed to be congratulated, for, with two such aids, she may hope to make much of herself. Complexions may be beautified and hair may be transformed, but a mouth is impossible to remake, unless surgery can be employed, and even then the small scars resulting will not assist in making matters any better.

So few people can be said to possess the perfect mouth, it may be well to consider the best means of treating the imperfections commonly seen, and in order to do this it will be necessary to understand the requisites necessary for the normal condition of the ordinary mouth.

The lips are two horizontal, flexible folds, surrounding the opening of the mouth, and on this margin the skin passes into the mucous membrane. The red portion of the lips, though really belonging to this mucous membrane, also partake of the nature of the skin. The coloring should be fresh, with a decided, though dry, gloss. The beauty of the lips depends not only upon the coloring and outline of the margin, but also on the symmetrical distribution of the tissue and the peculiar bright gloss of the red portion.

The cosmetic defects most frequently found are those of color shape and condition of the epidermis. The lips

may be too thick, or too thin, too much bowed, or too long and straight. Aside from the application of coloring, cleverly simulating the desired curves, little can be done to remedy defects in form, though it has been said that to some extent the conditions may be improved. For instance, bathing the lips with tannin will somewhat reduce the size, while thin, drawn-in lips are declared to be improved by the application of irritants. The use of coloring as mentioned will not be possible in daylight, but can be used for stage purposes alone, and in this way may entirely change the expression of the face.

Colorless lips, when caused by ill health, are usually remedied only by general improvement, and in case of wasting disease, of great severity, nothing but the paint-pot can remedy the condition.

The cosmetic error most commonly seen is that of chapping of the lips. In some cases the epithelium seems to peel off without cause, at any time of the year. In others, this trouble is caused by the use of sharp spices, cheap cosmetics, and often by poisoning from colored veils. In all severe cases the lips are pale and covered with scales, or red and surmounted by brownish crusts. Deep incisions, either in the center or at the corners of the mouth bleed readily on pressure. This trouble, if neglected, may become chronic, leaving the mouth in such a distorted condition that it is almost as disagreeable to behold as it is painful to possess. Taken in time, it will often yield to treatment, by applying the proper ointments and avoiding the use of irritants. Many people, in an endeavor to remedy matters, have but increased the difficulty by using pure glycerine, instead of an oil, and in this way simply intensified the irritation.

If the applications of soothing salves are not effica-

cious, and the incisions persist in becoming deeper, it may be necessary to cauterize the portions before destroying them entirely. This rigorous process may be followed by bland substances with good results. For ordinary purposes this salve will be found efficacious:

Lanolin	1 ʒ
Almond oil	2 ʒ
Spermaceti	2 ʒ
White wax	1 ʒ
Carbolic acid	½ ʒ

Melt the oils together, and add the acid when the mixture has cooled. Apply whenever necessary. In addition to the use of the salves, certain precautions should be observed. For instance, the lips must not be moistened while out in the air. The practice of biting them must not be allowed, and, most important, no veil should be worn that will draw across or touch the lips in any way. By observing these rules much trouble may be easily avoided.

The treatment of the gums must also occupy some attention, as no mouth can be considered perfect if the gums appear pallid and unhealthy. In reality, they are simply the mucous membrane surrounding the teeth. When in perfect health they are firm, of regular contour, with pyramids not too prominent, and of a healthy red. The cosmetic defects of the gums do not depend so much on general diseases and are more easily treated as connected with the teeth. The proper attention to one is generally sufficient to insure a good condition in the other. When, in use of the toothbrush, the gums bleed easily, there is, of course, an indication of loosening and inflammation that will necessitate the use of a flat toothbrush instead of a narrow one,

and the brushing of the gums themselves, as well as the teeth. A mouth wash is of benefit in these cases and may be applied either with a brush or by means of a cotton swab. It may be made of these ingredients:

Listerine	1 ℥
Alum sol.	½ ℥
Myrrh	½ ℥
Water	3 ℥

Cases of receding gums are more difficult to treat, as the trouble is not only constitutional but local. The wash that may be used to good advantage is best made by mixing together—

Lime water	2 ℥
Myrrh	1 ℥
Bals. Peru	1 ℥
Milk magnesia	6 ℥

This wash may be used many times during the day, and in addition the service of the dentist should be employed.

Perfect teeth are said to be nearly as rare as perfect gems. This statement may well bring a smile of pleasure to the lips of the woman who possesses the requisite number in absolutely good condition. The cosmetic errors of the teeth are now so well cared for by specialists who have made the simulation of good ones a study, that nearly every woman may purchase what Nature has denied her, if she wishes to do so. Unsightly cavities are cleansed and built up with porcelain so nearly matching the teeth that it is impossible to tell where it begins or ends. Or, if the teeth are really hopeless, the greater part will be cut away and a new portion made that will fit on the old roots and extend into

the gums, in such a manner that detection is practically impossible.

The incrustations that appear in the form of a yellowish deposit should be removed as soon as they appear, as otherwise the enamel will be injured, and the teeth thus be made to decay. There are many forms of these deposits, and of course the soft ones may be kept away by the use of a toothbrush and a good dentifrice, but the hard variety will need the attention of the dentist. If so situated that his services cannot be commanded, much may be done by very careful work with the finest of pumice stone mixed with powdered charcoal and applied by means of a small stick and a bit of cotton. This work must be very cautiously done.

Absolutely clean teeth will not decay, but as it is impossible to reach all the tiny cavities and thoroughly cleanse them, constant work is necessary in order to prevent the tiny particles of food from accumulating in the crevices. The use of a poor dentifrice is thus responsible for much trouble, and care must be taken to secure one that is fully adequate to the task of cleansing the crevices as well as the surface. A dentifrice that may be easily prepared and will be as effective as any, may be made of these ingredients:

Orris root powder	4 ℥
Precipitated chalk	8 ℥
White castile soap	4 ℥
Oil sassafras	40 drops.
Oil bay	80 drops.
Honey enough to form paste.	

Or, if a liquid dentifrice is preferred, there may be a demand for this recipe, as it cleanses the teeth nicely and will not injure the enamel:

Quillaja, coarse powder ..... 1½ ʒ
Cochineal powder ..... 15 gr.
Glycerine ..... 3 ʒ
Oil of wintergreen..... 25 drops
Alcohol ..... 10 ʒ
Peppermint water to make..... 32 ʒ

For many purposes a wash such as described is most excellent, as the alcohol penetrates into crevices and assists greatly in preventing any process of decay. It has been noticed that brandy drinkers usually possess fine teeth, as the alcohol acts as a cleansing and disinfecting agent.

When properly brushed, few teeth will require much attention from the dentist, unless there is some process of crumbling going on, that is due to insufficient bone-making material in the body. It is quite surprising to note in this connection that even when people are desirous of saving their teeth and preventing decay, few of them actually know how to use a toothbrush.

A hard brush is usually indicated in cases where the gums are normal. Even when the gums bleed, and are tender. this tendency may be overcome by the use of a brush of this description. Before using a new brush it should be well washed with soap and water and then allowed to stand in a solution of boracic acid for at least one hour. Then the powder should be applied on the brush, and the teeth cleansed by drawing it vertically from above downward, and from below upward. The next process consists in brushing them horizontally and finally the upper and under surfaces should be cleansed. If the teeth are extremely brittle, the process may be finished by rinsing the mouth out with lime water. In any event it is well to use a mouth

wash from time to time, employing either listerine or some thing of that nature for the purpose.

Discolorations may be removed by scrubbing the surface of the teeth with bits of cotton, soaked in pyrozone and water, say a twenty-five per cent solution, and then rinsing the mouth out with clear water. A yellow appearance is common to some teeth, while in others it is induced by the use of dentifrices containing a great deal of soap. It is never wise to employ the bleaching fluid too frequently, as in time it might injure the enamel.

The disagreeable odor from the mouth, that is not only embarrassing but disgusting as well, may arise from the teeth or from numerous other causes. When from the teeth, the filling of the cavities and constant use of a good dentifrice will be sufficient to banish it. If from the tonsils, or a catarrhal condition, the use of pyrozone as a gargle will be met with great success. If the trouble arises from a disordered stomach, of course, the cure will consist in remedying the condition at fault. A mild solution of boracic acid, made by adding enough of this substance to water to make a ten per cent solution, will make a very good liquid for use in this manner. It should be used, not once, but many times a day, and if necessary may be followed by these pastilles for perfuming the breath. Of course, these are only temporary remedies, to be used while the real cause is undergoing some process of treatment. No woman of any refinement can ever feel resigned to such a condition if there is any aid for it. The pastilles may be made after this recipe:

Powdered licorice	10 gr.
Powdered charcoal	20 gr.
Vanilla sugar	3 ʒ
Gum arabic	5 ʒ

Mix with warm water to a stiff paste, roll and cut into lozenges. These pastilles will neutralize the acidity of the stomach, and will arrest decay of the teeth, in this way assisting to make the breath endurable, until further measures can be taken.

Finally, the following remedy for toothache will be of benefit to those who are subject to it, and it should be kept on hand, as it requires some time to prepare. It is best used by applying it to a bit of cotton, and then inserting the cotton in or near the aching tooth:

Camphor	2 ʒ
Oil cajuput	4 ʒ
Chloroform	5 ʒ
Oil of clove	2 ʒ

Mix and dissolve by agitation, and keep tightly corked, until needed. Heat may also be employed to advantage, by applying the hot water bottle to the side of the face most affected. The use of the remedy given, in connection with heat, is rarely unsuccessful.

CHAPTER XXIV.

THE CARE OF THE FEET.

To be really comfortable and happy, every woman should know just how to keep her feet in good condition. If she does not, nothing is more certain than the fact that she will spend a certain number of days each year in an extremely remorseful frame of mind, unable to walk with any degree of ease on account of aching and tender pedal extremities.

The most frequent cause of trouble with the feet is simply neglect. Of course, all civilized people do take care of the body and incidentally the feet by bathing at frequent intervals, but not one person in ten will take the trouble to care for them intelligently and thus prevent trouble, instead of going to much labor and expense curing it. When one considers the number of absolutely unhygienic shoes placed upon the market, made of materials that are bound to cause more or less difficulty, with heels so absurdly high that not only the feet but also various organs of the body must suffer when they are used, there is really not much occasion for sympathy with people who suffer because they wilfully place themselves in a position to bring on these afflictions.

One of the first requisites for good feet is found in the wearing of good shoes, and by this is meant well-fitting shoes that will support the instep and heel without pressing the toes unduly. The sole should be moderately thick and the heel low, while the leather should not be of either patent kid or any other highly glazed variety, for anything of this

kind prevents ventilation and induces undue perspiration, making the feet tender and painful.

The hosiery, too, should be well considered, and if possible, all colored hose should be procured with white feet. The skins of some people are so sensitive that the wearing of even the most expensive colored hosiery invariably results in the appearance of eruptions like water blisters and terminating in a condition resembling eczema. Besides procuring the hose of this description care should be taken to change the stockings at least every other day, and if it can be arranged, every day. Fine cotton will be found the best hose for all occasions, as either lisle or silk are apt to irritate the skin in time, while in addition to the irritation the silken hose wear out so rapidly that few people care to incur the expense.

The care of the feet consists in bathing them at least once a day, preferably at night, in lukewarm water and soap, using the wash cloth carefully to cleanse the space between the toes, and finishing the process by powdering the surface well with a mixture of boracic acid and talcum.

If the flesh feels at all painful and the feet are swollen, immediate steps should be taken to cure this condition and, after bathing them, the following tonic should be applied:

Alcohol	6 ℥
Tannic acid	1 ℥
Alum	½ ℥
Witch Hazel	2 ℥

If the swelling is extremely marked it will be well to apply bandages soaked in the tonic and allow them to remain over night. Before dressing in the morning the feet may be sponged off with cold water, and both the stockings

and shoes should be dusted with the boracic acid and talcum mixture.

The large and painful joint, so often a source of misery, may be made far more endurable by massaging it. Illustration 34 shows the process as performed by an expert. Ordinarily the foot will better rest on a pillow or pad, but for the purpose of illustrating the work, this position has been selected. Although the best work is naturally done by a professional, even an amateur can do wonders in the way of relieving this condition by supporting the foot with one hand while the other rubs from the instep down to each toe and in a gently circular motion the affected joints.

The following mixture may then be applied to them and the remainder of the surface dusted over with powder.

FOR PAINFUL JOINTS.

Guaiacol	1 ℥
Collodion	1 ℥

Shake well and keep in a tightly corked bottle.

The creme for massaging may be either the Creme Celeste or any other good creme, as it is simply to aid the fingers in manipulating the flesh.

Corns may be removed and kept in most excellent subjection by adopting the following plan. Before attempting to touch them the feet should be well soaked in very warm water. After removing them the callous portions should be peeled off carefully, taking care not to use a sharp knife that will cut the skin in any way. As soon as all of the portion that will come away easily has been used, an application of this remedy may be made.

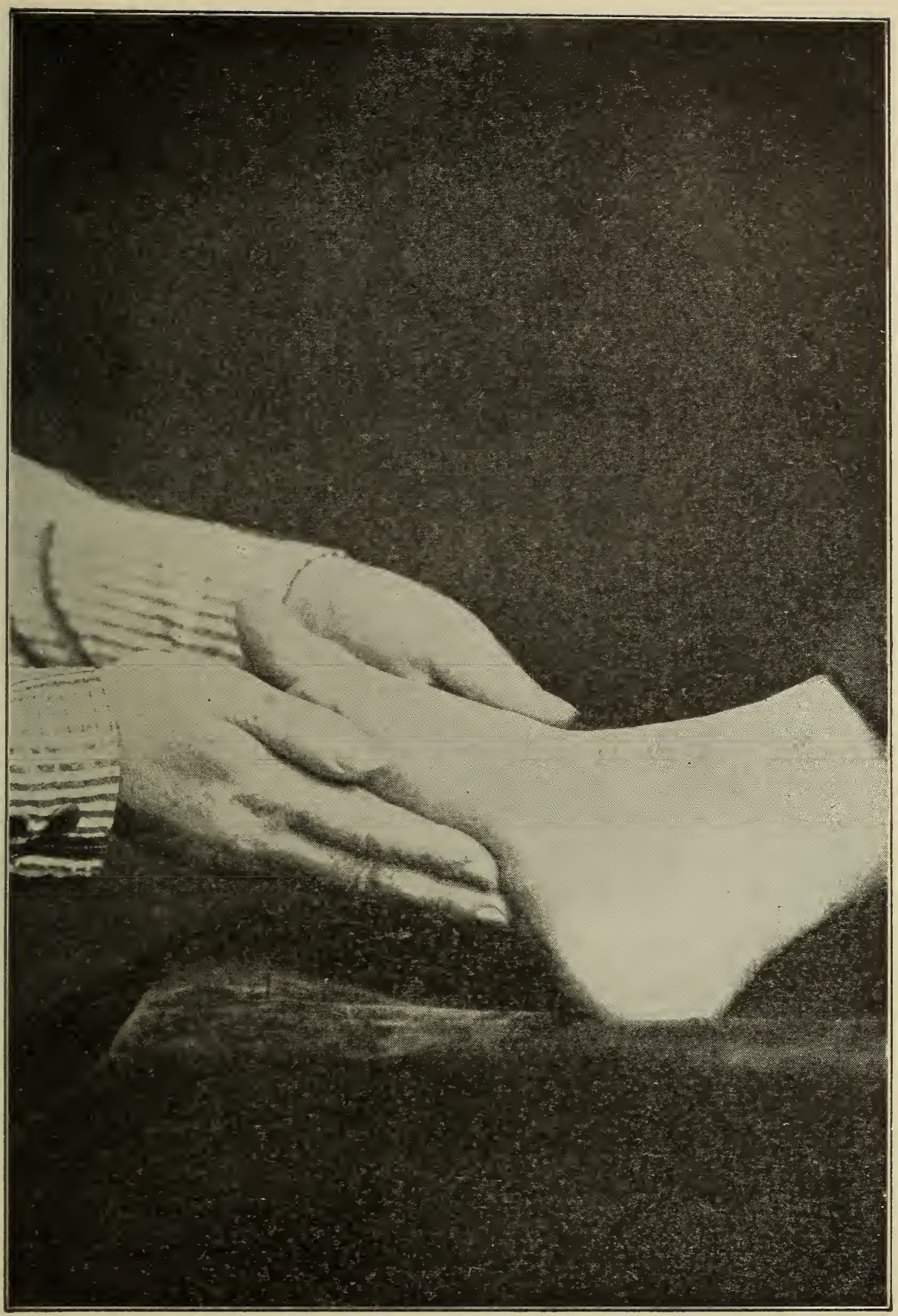


FIG. 33. Massage of the Foot.

CORN CURE.

Collodion	6 ℥
Guaiacol	1 ℥
Canna. Indica	½ ℥
Sal. acid	1 ℥
Acetic acid	½ ℥

Add the liquid ingredient and shake well and then add the salicylic acid and shake well until dissolved. Keep tightly corked and apply with a bit of cotton wrapped around a slender piece of wood. If the mixture becomes dry it may be made liquid again by adding ether to it. This remedy is most excellent for removing the pain speedily and will, when properly used, be wonderfully efficacious as a cure. Each night for four nights the process should be continued as described, and each peeling off of the callous portions should be performed with the knife that is not too sharp.

At the end of that time the surface should be smooth and free from any evidence of a corn. If it is not, the process may be continued until the corn has disappeared. An occasional application from time to time will be all that is necessary.

Before using the knife it should be sterilized as directed in the chapter on this subject, and in case the flesh is injured or cut a solution of boracic acid should be used immediately, pouring it directly on the wound and applying a small bandage. In the treatment of soft corns, the same rule may be adopted, being careful, however, not to attempt to do anything excepting wash out and cleanse them if they are festered. For this purpose peroxide of hydrogen will be excellent, followed by rinsing with boracic acid solution,

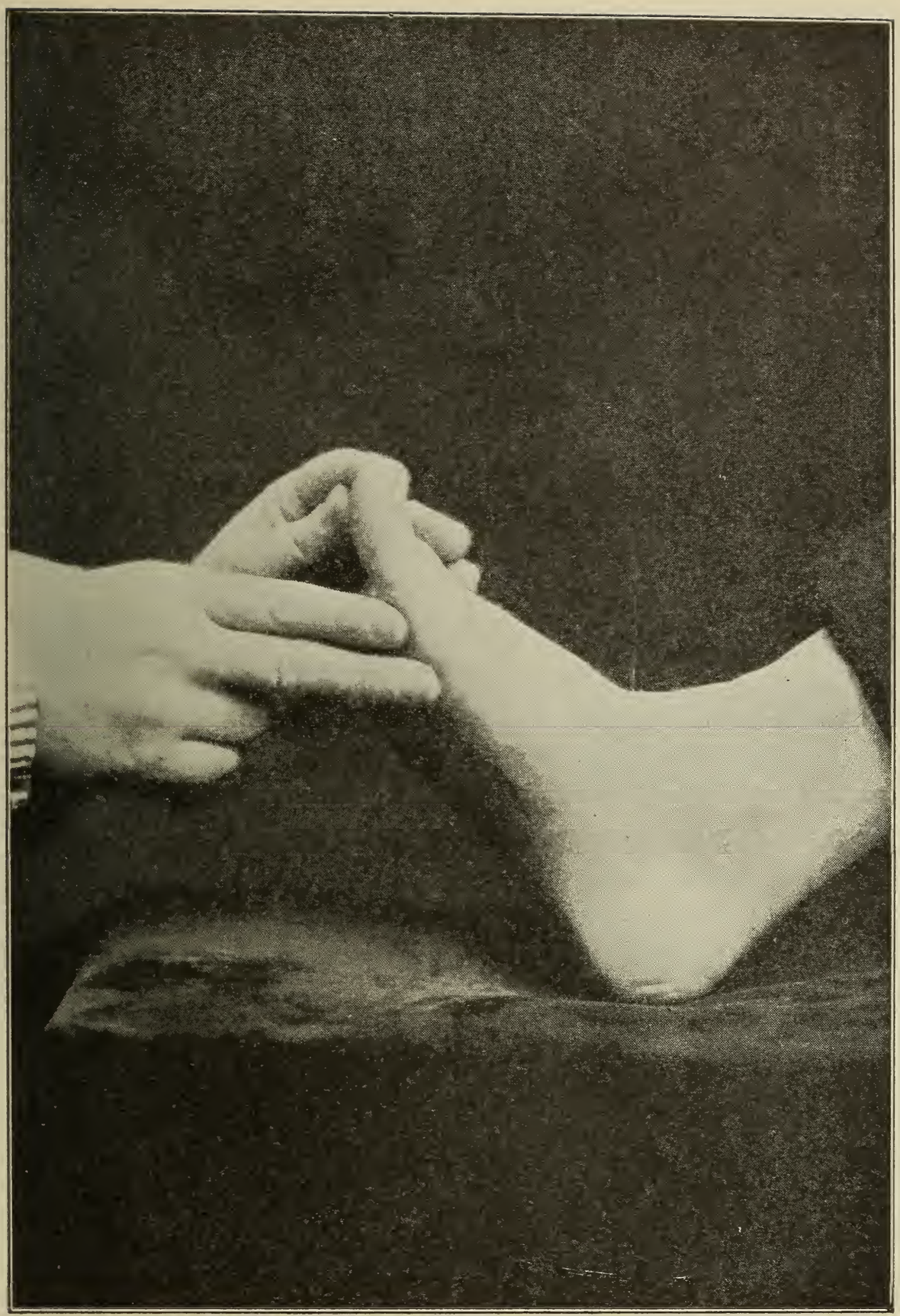


FIG. 34. Massage of the Joint to Reduce Inflammation.

and the placing of a dry bit of cotton between the toes to prevent the accumulation of moisture.

Ingrown nails are subjects for skilled specialists, and too much stress cannot be placed upon the danger of a cut to flesh in this inflamed condition. An old remedy and one that has been much cited may be tried by those who are obliged to depend upon home treatment. It consists in scraping the center of the nail as thin as possible by means of a bit of broken glass, while the corners of the nails are, of course, raised by means of small cotton pledgets.

If at any time there has been a cut of any kind or if the foot has been injured and becomes swollen and angry in appearance the wet bandage of a saturated solution of boracic acid should be used until a physician can be consulted. It is never wise to neglect such injuries, as many of the most fatal cases of blood poisoning have come from cuts made while attempting to remove corns. It is for this reason that no cutting should be done, and instead the use of the peeling process insisted upon wherever it is possible so to do, the use of a strong acid for eating away corns should be forbidden, as much of the surrounding flesh is involved, and the danger is too great to pay for the small chance of relief.

The care and cure of corns is not difficult if but sufficient patience is practiced, but there can be no neglect, for if there is the trouble will soon be as disagreeable as ever, and the pain even more intense as time goes on.

Feet that perspire too freely can usually be managed by bathing each night in warm water, to which a few drops of formalin has been added, and in the morning dusting the shoes with the powder made as follows:



FIG. 35. Bandaging Inflamed Joint.

Salicylic acid	1 ʒ
Alum	½ ʒ
Boracic acid	½ ʒ
Starch	2 ʒ

If this is not effective enough more salicylic acid may replace a portion of the starch. Ordinarily, however, it will be found all that is required. In the use of any dusting powder absolute caution is necessary in removing the powder between the toes, otherwise the irritation caused by constant rubbing will cause an inflammation and possibly the portion will fester. The bathing each evening, when properly done will prevent any such complication.

Chilblains may be effectively treated by painting them with pure guaiacol, or the mixture of guaiacol and collodion recommended for inflamed joints. To produce the best effects this preparation should be applied not once, but several times a day and again at night.

CHAPTER XXV.

CARE OF THE HAIR.

The proper treatment of the hair must also include a knowledge of the best means of securing a healthful condition of the scalp, for hair may be compared to a plant whose growth depends largely upon the quality of the soil, the amount of air, sunlight and careful attention given it. Ordinarily the care of the hair is restricted to very infrequent shampoos taken more to insure comfort from the peculiar itching condition present when the scalp is neglected, than because of interest in the best manner of keeping the scalp and hair in good condition. People with fine hair almost invariably abuse it, and only begin to realize the necessity for treatment when it commences falling out or splitting at the ends or turning a peculiar shade from the application of strong tonics or poor shampoos.

THE HAIR.

The hairs are columnar epithelian formations, the lower parts of which are imbedded in the corium and sub-cutis, while the upper portions project upward through the epidermis and above the surface of the skin. We recognize two varieties, the true hairs found on the scalp, eye-brows, eyelashes, etc., and the lanugo or soft down found on the face, trunk, etc., and differing from each other only in point of size.

Hairs are generally implanted obliquely in the skin, in consequence of the connective tissue bundles of the corium. They are both elastic and strong, being capable of great

extension and able to bear heavy weights. The length which hair may attain, varies in different individuals, in different localities. They grow to a certain length and then stop and fall out, the rate of growth being about one half an inch a month. The life of an individual hair, varies from two to five years, of an eye-lash, from one hundred to one hundred and fifty days. Warmth and frequent cutting promotes their growth.

We distinguish as belonging to the hair, 1st, the shaft or that portion projecting above the skin; 2d, a root situated in the corium, and the subcutaneous tissue, and ending in a knobbed extremity; 3rd, a follicle being an involution or the dermic layers of the skin in which the hair is placed.

The shaft or scapus, is a long and unusually straight column, tapering at its free extremity. It consists of a central portion called the medulla or marrow, composed of cells containing fat and free pigment granules.

The mass of the hair, however is made up of cortical substances consisting of elongated, flattened, epithelial cells. Outside of these cells is a delicate membrane, resisting the hair substance and binding its bundles closely together. It consists of flat, cornified, epithelial cells overlapping one another.

2. The root or radix is thicker than the shaft and ends in an expansion, known as the hair bulb. In the bottom of this bulb, is a cup shaped depression, which rests upon the papillae at the base of the follicle. In its structure, the root is the same as the shaft, but the cortical substance is loose and spongy and consists of cells closely resembling those of the mucous or malpighian layer.

3. The follicle or hair sac, is a bag-like inversion of the corium. It is cylindrical with a narrow mouth on the sur-

face of the skin, and a larger rounded extremity that lies in the corium of the sub-cutis. A little below the level of the corium, is a constriction known as the neck, and here the ducts of the sebaceous glands open into the follicle. The follicles vary much in size in different localities, but in general, they are from 2 to 6 M. M. in length. At the base of the follicle, issues the papilla, a small club shaped projection about 1/10 M. M. in size, which fits into the hollow at the bottom of the hair bulb. This papilla is really a modified papilla of the corium and contains the vessels that nourish the hair as well as the nerve fibres. The growth and regeneration of the hair takes place from the papilla. New elements are found there, which elongate and work up pushing the hair before them. New hair grows from the old papillae when the former are lost or pulled out.

Hair plugs remaining in the follicle, can check the growth of new hair, and it is for this reason that friction, stimulation and the use of follicle brush and cleanser and negative current, is so excellent for the purpose of dissolving and thus removing the obstructions.

The pigment of the hair depends on the color of the cortical substance and also on the air contained by the medulla. The basis color, is always blonde to red pigment in granules; and diffused, gives the shade from brown to black. Soaps, alkalis, and especially peroxide of hydrogen, destroy the pigment, while the presence of much air in the cortical substance renders the hair white. The hair is so elastic that it is capable of being extended one-third of its length, and then after being elongated it will recoil until it is but 1/18 of an inch longer than before.

Although hair is indissoluble in water, nitric acid turns it yellow and hydrochloric and sulphuric acids, and metallic

acids and also some organic substances, change the color and hence the many dyes used for this purpose.

In general, the health of the hair depends on the health of the scalp, and therefore the greatest care should be exerted to keep the scalp in most excellent condition and free from all foreign substances.

Upon the surface of a quarter of an inch Withof found of the black hair 147, brown 162 and blonde 182, thus showing that the black hair is the thickest and the blonde the thinnest.

Oken has observed that the hair formation is the connective link between vegetable and animal tissue, and states his opinions as follows: "The fur is the peripheral connection between the plant and the animal. The hair forms the summit of the vegetables. As the plant requires air and light, so, in the animal kingdom the hair appears where it is most exposed to these elements, namely, on the surface. It is not a little remarkable that those mammals which stand nearest the man, the anthropid apes, are distinguished by their great development of the capillary system."

To the earnest student the words quoted have a deep significance, for they point to the proper course of treatment as nothing else can, and show plainly that the perfect human being should be under no need of stimulating tonics or treatments if the open crowned hats and physical culture work could be universally known. Any curative treatments should be extended not only to the scalp, but also to the entire body, at least so far as giving advice as to diet, manner of exercise and any other point that may improve the general health.

The greater number of scalp diseases could be avoided if more people could be made to realize the necessity for sys-

tem in shampooing and caring for the scalp and hair. Many instances might be cited in which excessive falling of the hair has been checked in one or two treatments by the use of massage and electricity, and stimulating tonic. Unfortunately, however, the majority of people neglect the use of any of these measures until the loss of hair has been extremely great and the follicles so weakened by neglect of the scalp that it is impossible to do much, excepting to preserve the tresses that are left. There are innumerable cases in which the falling of the hair commences in children of fifteen and continues year by year until as manhood or womanhood is reached the condition is truly mortifying. So much of this trouble is entirely unnecessary that it seems strange indeed to know how few people really have interest enough to acquire knowledge in the proper care of this most important attribute.

To begin with, few scalps are cleansed as they should be. The majority of people cleanse them frequently but not wisely, for in the desire to possess fluffy locks they employ all kinds of injurious substances that sooner or later destroy the vitality of the hair. Among the common recipes for this purpose may be mentioned the use of salts of tartar, strong ammonia water, soda, borax and other articles that are too numerous to mention. Sometimes a simple shampoo is used and the hair is rinsed with another mixture containing an acid. Nitric acid will, it is true, turn the hair yellow, but is so powerful that it can also eat holes in nearly every substance when used pure, while hydrochloric and sulphuric acid can actually dissolve the hair. Thus every strong alkali or acid used will in some way injure the tresses in such a manner that it will be nearly impossible to remedy the trouble.

Every scalp should be thoroughly cleansed at least as often as once in ten days, and if the hair is to be kept in good condition the process must be one that shall remove the dirt, dust and sebaceous secretions without extracting too much oil. The best shampoo is one not too strongly alkaline that can still leave the hair as it should be, and for this purpose there are several excellent recipes.

In Germany the use of bran water is extremely common and as it makes a good, though simple, shampoo some of the readers may enjoy trying it.

BRAN SHAMPOO.

Water	1	gal.
Bran	1	qt.
Ivory soap	½	bar

Boil the bran with the water for about an hour and then strain and add the soap shaved into small bits. Enough of this is used to make a good lather and the scalp is covered with it. Perhaps it may be well to explain that in shampooing few people really pay enough attention to the scalp. The best shampoo is given in this manner.

The hair is, of course, smoothly brushed and is separated strand by strand, while the shampoo mixture is poured upon the scalp. As soon as the surface is well covered the tips of the fingers (not the nails) may be employed to rub the fluid in well, examining from time to time to see that the friction is not too vigorous and also to see if the cleansing is proceeding well. As soon as the surface has been well manipulated the mixture should be washed off with warm water and some more of the mixture poured on. The second process is usually all that is necessary, and as this is fin-

ished the hair itself should be washed with the shampoo and the scalp well rinsed, using first very warm water, then cooler, rinsing in water of medium temperature at least twice and ending with water as cold as the patient can endure in order to stimulate the scalp as much as possible.

The hair may be dried by any one of several methods, but in actual practice the use of the electric drier will be found the best, quickest and most practical alike for operator and subject. Not only is far less time consumed in the operation, but also the mauling, pulling and altogether disagreeable treatment with the heavy bath-towels is avoided. The air is never hot enough to cause any trouble in making the hair split or look dead and in addition the saving of time is something most important in this busy age. An ordinary head of hair can be dried in six minutes, while a very heavy hair does not consume more than ten.

In the illustration the process is shown as conducted by one of the best modern machines on the market.

Egg shampoos, while popular, do not seem to be the best for all scalps. The following recipe is one much used by those who can secure good results.

EGG SHAMPOO.

Yolks of three eggs well beaten.
One pint of warm, soft water.
One ounce of spirits rosemary.

Beat well together and use as any shampoo by applying to the scalp. In this much care must be taken to rinse the scalp well.

For those who wish to employ a practical as well as extremely good recipe, the following will be found excellent. It not only cleanses the scalp, but also leaves the hair in a fine condition, and is not particularly expensive.

SHAMPOO MIXTURE.

Green soap	4 ℥
Castile soap	4 ℥
Water dist	1 qt
Alcohol	8 ℥

Boil the soaps in water until a thick mixture results, and then add the alcohol, and keep in a tightly corked bottle until ready for use. The mixture will, of course, be diluted with water when necessary, and this quantity will be sufficient for many shampoos.

If a tar soap is desired it may be made in the same manner, or by simply boiling it up with water until a shampoo of the desired consistency is obtained.

After the shampoo, while the scalp is still moist, a good tonic may be used to good advantage and should be rubbed in vigorously, unless the scalp is at all irritated. In this even the application of pure witch hazel will be found most soothing. In case the hairs are split the ends should be trimmed and enough clipped away to give an opportunity for a healthy growth.

If any one has been unfortunate enough to be afflicted by the presence of vermin, it is well to apply this ointment before shampooing:

Petroleum	5 ℥
Olive oil	2½ ℥
Bals. Peru	1 ℥

This ointment may be rubbed in well with a piece of white flannel and allowed to remain at least twelve hours, or if possible, twenty-four. At the end of this time not only the vermin are destroyed, but the ova are also made harm-

less. To be perfectly safe, it is well to repeat this dose the following day, and if the scalp is irritated apply a bland ointment. For removing the ova from the hair a dilute solution of acetic acid may be used very successfully, as it dissolves the gluey substance by which the "nots" are secured in place. Even if the head becomes completely infested, it is not necessary to cut the hair, as this treatment will be all that is necessary.



FIG. 36. Massage of the Scalp.

CHAPTER XXVI.

TREATMENT OF SCALP AND HAIR.

There is an ever increasing demand for some agent that shall stop the falling of hair, and, although every one realizes that poor health, sedentary occupations and improper modes of living are very frequent causes, still there are numerous cases where the trouble is caused by lack of care and the consequent weakened condition of the tresses and the uncleanly scalp. The most important requisites for a really fine condition of both hair and scalp apart from the very necessary cleanliness are, ventilation, and the proper amount of friction. In many instances where delicate children have the trouble of scanty locks as well, the systematic care after weekly shampoos has done wonders. No matter whether the hair is extremely oily or exceptionally dry, long or short, the foundation of all good work is based on the adoption of certain sensible rules, and it may be confidently asserted that if more people would understand and practice these instructions there would be few cases of bald heads.

The process of giving scalp massage is daily gaining a wider recognition on account of the immense benefit derived wherever this practice has been faithfully carried out. It may be given either with or without the electric current, and is usually commenced by parting the hair in straight lines from the forehead toward the back of the neck, and employing the two first fingers of each hand as shown in illustration 36 for administering the massage.

To do the best work, the fingers must be placed firmly



FIG. 37. Massage of the Scalp.

on the scalp and then pressed in such a manner that the scalp is manipulated without pulling the hair. The movement is made both forward and backward several times, continuing the work over every portion and using either an oil or witch hazel, or a good hair tonic to keep the scalp moist during the work.

The next step is shown in illustration 37. Here the thumbs of each hand are kept in a stationary position at the back of the scalp while the fingers are spread out and under the hair, keeping firmly in place while the massage is continued by moving the scalp with this pressure

This manipulation of the scalp sometimes precedes but usually follows the use of the galvanic current in which as shown in illustration 38 the negative electrode in the shape of the follicle brush is used for a thorough stimulation for the scalp. In the meantime in order to render the scalp in the most receptive condition the follicle cleanser should be liberally sponged onto the surface. For ordinary forms of scalp trouble this treatment is excellent, for it gives the quickest and most effective local stimulation.

Following the use of the galvanic current as described, the scalp massage may be given with the finger tips and the faradic current employed if desired.

The vibratory massage is another popular method of increasing the blood supply to the scalp, and the illustration shows the most practical method of work, in protecting the hair from any danger of being entangled in the applicator by means of a clean towel wrapped over the hair. The stimulating effect is quite as great and the operation is far more pleasant for the subject.

The sanitary brush made entirely of metal, and which has practically superseded the old style brush owing to the



FIG. 38. Use of Follicle Brush.

fact that it is indestructible can be used still later on in the treatment if desired, and the tonic may be applied and used with this brush.

Many new operators complain that they can get no effect from the galvanic current used on the scalp. This is because hair itself is a poor conductor of electricity, and because the scalp has not been thoroughly moistened. Care should therefore be taken to see in every instance the follicle cleanser or tonic have been applied in such a manner as to make the surface thoroughly damp, and after this but little trouble will be experienced.

The result of this treatment while not seen immediately is usually manifested in a very short time and is undeniably pleasing to any who are in need of scalp stimulation. Many people have employed this process of manipulation at home for ten minutes each day with truly remarkable results in increasing the growth of the hair and banishing every sign of dandruff.

This treatment is always finished by the application of a good tonic well rubbed in, and it may be observed that a tonic so employed has a far better effect than when it is used without the preliminary treatment. The recipe given is highly praised and will be found most efficacious for the purpose.

STIMULATING TONIC.

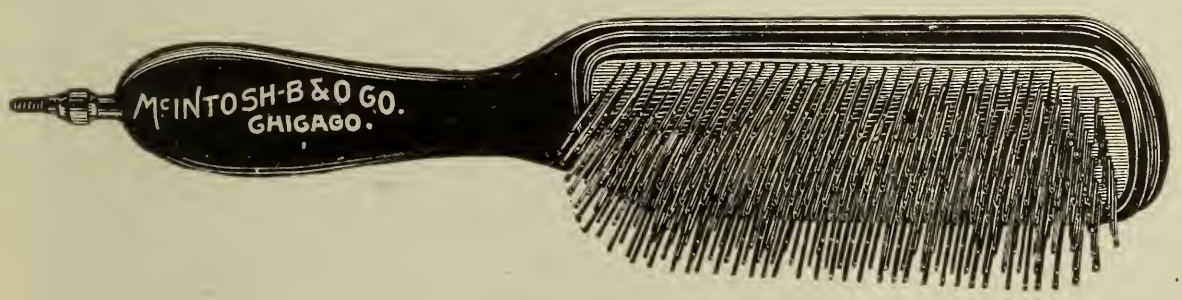
Tincture of cantharides	2 ℥
Fl. Ext. of jaborandi	1 ℥
Glycerine	1 ℥
Alcohol	2 ℥
Cologne	1 ℥
Water sufficient to make	10 ℥
Bichl. mercury	2 gr.



FIG. 39. Proper Use of Vibratory Massage on Scalp.

This mixture will need to be filtered several times before it is clear enough for use, and then it will be found extremely beneficial.

When loss of hair is caused by nervous touble the use of electricity is of added value, as it acts as a sedative to the nerves as well as a stimulant to the scalp. Headaches, either nervous or neuralgic, are relieved speedily and thus in many instances the health is improved. When the hair is exceptionally oily and the scalp feels cold and looks white and lifeless, the galvanic current may be used to great benefit in this manner. A bit of cotton well saturated with a



Hairbrush Electrode.

stimulating tonic is placed in the handle connected to the positive pole and placed upon the scalp, while the negative electrode is held in the hand. The entire scalp is treated in this manner and the treatment is finished by giving the scalp massage as directed. Treatments for this peculiarity must be given at least twice a week and the work done at home should also be of a nature that will assist in this process.

If it is impossible to obtain electric treatments and they are found to be necessary it will be advisable for patients to secure their own batteries with the brush attachment and thus be in a position to use the current as often as they like.

In connection with this topic it may be well to mention



FIG. 40. Use of Sanitary Hair Brush.

the practice of clipping or singeing the hair. There has been for many years a difference of opinion on these points, and until recently few of the higher authorities have seen fit to give much attention to the discussion. Now it is decided that clipping is the best method, as burning takes away too much of the vitality. The split ends are so numerous in some cases that it seems almost impossible to find all of them, but if the hair is twisted in small strands and then roughed by moving the fingers from the tip toward the head, the small scissors can easily pass along and get the worst hairs, while subsequent treatments will be sufficient to keep them all well trimmed. This work should be done at least once every four weeks and does much to keep the hair in good condition. By following the hints given here, any head of hair may be kept in good condition and the majority of cases of falling of the tresses stopped.

CHAPTER XXVII.

THE TREATMENT OF DANDRUFF OR SEBORRHEA.

Dandruff has been called by a very eminent authority —"catarrh of the epidermis"—and as there are many varieties of catarrh so there are numerous complications of this very disagreeable and common scalp affection. At times it is a short-lived affair, at others, most persistent, and as it is always objectionable, the best manner of treatment should be one of interest to everyone so afflicted.

SEBORRHEA.

Synonym—Steatorrhea.

Definition.—Seborrhea or dandruff is a functional disease of the sebaceous glands, characterized by an excessive and abnormal secretion of sebum, which appears as an oily coating or as a crust upon the skin.

Symptoms and Course.—Seborrhea occurs anywhere where there are sebaceous glands, and is commonest upon the scalp, the face, the genitals, and the anterior and posterior surfaces of the chest. The infection may be a slight one, limited in area, and readily removed: or it may be extensive and severe, and very rebellious in treatment. We distinguish two separate clinical forms, in accordance with whether the sebaceous material that accumulates upon the skin is fluid and oily, or solid forming crusts and scales.

Seborrhea oleosa is the more frequent form of the infection, especially in the negro race, where it is so frequent as to be almost the normal condition. The skin is greasy to the touch, and glistening and the fatty material may even be

abundant enough to accumulate as minute drops of oil. It occurs on the nose and face, and bald scalps are rendered more shining by its presence. The dust and coal-soot of the atmosphere settle on the oily coating and stick there, giving to the skin a dirty gray or blackish appearance. The ducts of the sebaceous glands are usually markedly dilated, and may be seen large and patulous or plugged with comedones.

Seborrhea sicca is also a common condition, affecting both the hairy and the non-hairy regions of the body. It is of especial frequency upon the scalp, and is the common cause of premature baldness. It appears as thin, white and greasy scales, which become yellowish or brownish as they desiccate and become dirty. The skin beneath is grayish white and anemic, and when excessive accumulation of the scale causes irritation, a mild eczematous inflammation is set up.

Seborrhea may in rare cases be universal. This is physiological in the new-born infant, where the half dried sebaceous secretion forms a vernix caseosa. The superabundant secretion usually continues in the scalp during the first year of life, and where there is not sufficient cleanliness accumulates in thick dark-yellow or brownish masses, the so called "cradle crust." But in most cases, seborrhea is partial and affects only a limited area of the skin.

Seborrhea is the commonest form of the malady, and as the chief cause of baldness, one of the most important. The excessive glandular secretion accumulates as more or less fatty, dirty yellowish white scales occupying circumscribed areas or diffused over the entire scalp. The hairs are fatty and sticky, and become matted together, and want of cleanliness may lead to a tangling up of the hair with

sebum and dirt. Later on there occurs excessive cornification and desquamation of the epithelial cells; and the mingled sebum and scales are cast off as dandruff, the white scales of which powder the patients' clothes. Being unaccompanied by any subjective sensation further than a moderate itching. This condition is usually allowed to persist for years without treatment, and it is only when the final stage sets in that the medical aid is sought. The hairs then lose their luster and get loose; the follicles begin to atrophy and the hair to fall out. The baldness begins upon the vertix, or above the forehead, and may go so far that only a fringe of hair is left around the nape of the neck and ears. The denuded scalp is shiny, and attached firmly to the skull beneath. More rarely than upon the head a similar process takes place in the mustache, beard, and eyebrows. In some of these cases there is more or less hyperemia; epithelial proliferation is a more prominent factor; the itching is more intense; and they stand on the boundary line between pityriasis and the malady under consideration.

Seborrhea facei and seborrhea nasi are common localizations of the disease and appear both in the oily and the dry form. In the former the alae nasi and the cheeks are the parts most commonly affected. The skin is covered with a layer of oily matter, mingled with more or less dirt from the atmosphere. The mouths of the glands are large and prominent, and comedones acne papules, and rosaceous patches are often present. In the dry form the sides and tips of the nose and the forehead are covered with small dark yellow, fatty, adherent scales, and the skin beneath is frequently irritated.

Etiology.—General impairment of health seems to be the main predisposing factor of the disease; occurs most

commonly in anemic and chlorotic individuals suffering from the irregularities of the bowels or of the menstrual function. Nevertheless, it is often seen in robust individuals, in whom we are at loss to account for its advent.

Prognosis.—The general prognosis of seborrhea is good, though some cases are very obstinate, especially where the genitals are affected.

In seborrhea of the scalp, also, our opinion as to the possibility of a regrowth of hair must be a guarded one. We have no means of telling what proportion of the hair follicles are still capable of growth. The patient should also be informed that treatment will inevitably cause an increased falling out of the hairs at first, but that none will be lost that are not loosened and ready to come out, while feeble ones will be strengthened and stimulated.

Treatment.—The treatment of seborrhea is, above all things a matter requiring much time and great patience. The general treatment must be directed to regulation of hygiene and correction of any ascertainable fault in gastro intestinal and uterine functions. Fresh air, abundant exercise, daily salt water baths and proper food are of importance.

The local treatments consist in removing the crusts and lessening the excessive secretory action of the sebaceous glands. The former is affected by softening them by the continuous application of scalp cleanser. If the scalp is affected, a piece of oil silk or a bathing cap should be worn during the night to protect the bed clothes and keep the parts moist. If this is not sufficient, green soap should be employed, best in the form of the spiritus saponis kalinus. This used as a shampoo with hot water once a day with the oil, in most obstinate cases, will cause most of the crusts to

disappear, and so soften the rest that there is no difficulty in removing them with a soft cloth or a comb.

In seborrhea capitas the above preliminary treatment should be employed to remove the crusts, and since they accumulate quite rapidly, it must be repeated once or twice a week during the entire course of the treatment. It is never necessary to cut the hair; but by carefully parting it and using a hard bristle brush dipped in the ointment or lotion, and brushing it into the scalp, successive areas of the skin may be treated until the whole has been covered.

The treatment of seborrhea oleosa differs in no way from that of the dry form of the disease, save that the preliminary treatment for the removal of the crusts is not required.

In severe cases of dandruff the removal of the crusts will frequently seem to increase the loss of hair, as impoverished by the course of the disease, and with weakened follicles, a complete cleansing such as will be necessary will sometimes cause a loss of hair so great that the patient will fear baldness. This loss is absolutely unavoidable and even if the treatment is not commenced will begin sooner or later and the baldness will really be a permanent affliction. If, however, the dandruff is removed as indicated, the scalp massaged and treated, and the follicles strengthened, the hair will be encouraged to new growth, and by care, future trouble may be avoided.

In addition to the use of the scalp food for the purpose of softening the scales and crusts, the use of electric treatments will be found of inestimable benefit and in the cases of excessive formation of dandruff the negative current will be especially indicated as by its action the scales and crust may be the more easily loosened and removed.

As much stimulation as possible together with vibration and in fact everything that can be devised to aid in restoring the scalp to healthful condition should be used patiently and persistently.

In this connection it should be explained that often several courses of treatments will be necessary in order to produce a really marked result. The soaking of the scalp with the oily substance must positively be insisted upon, and the stimulation rigorously employed right from the beginning, if success is to be assured.

Hyde declares that in exceptionally bad cases of dandruff the application of the oils and the shampoo should be alternated—using each every other day for just as long as there is an indication of the disease.

The average woman objects to the use of oil and the average operator wants to please her subject, hence the necessity for impressing the fact that the scalp food must be used *day after day* when the condition demands it. The exposure of the scalp to the rays of ordinary sunlight will also be found beneficial, while of course the use of the blue light is always of advantage in forcing in the scalp food as well as in its effect upon the scalp.

SIMPLE SHAMPOO.

Green soap	2 ℥
Alcohol	2 ℥
Rosemary Tinct.	½ ℥

Dissolve the green soap in the alcohol and add the tincture of rosemary and pour enough on the scalp to cover it, rubbing and applying enough water to make a good lather. It may be necessary to apply this shampoo several times in order to thoroughly cleanse the scalp of the oil and

dandruff. After it is cleaned it may be examined, and if it appears reddened and irritated, the scalp food may be rubbed in carefully.

In very severe cases, although this treatment seems wonderfully successful, the end of the second day will find a fresh deposit of the plates of dandruff, and it will be necessary to repeat the operation described for perhaps six or seven times at intervals of every three or four days until the tendency has been cured. As soon as the scalp can be cleaned without appearing at all irritated, a stimulating tonic may be used, and for this purpose nothing is better than this plan.

Immediately after the shampoo apply to the scalp pure witch hazel and rub it well with the tips of the fingers. Repeat this process again at night and the second or third day use the tonic.

Of course, in instances where the first cleansing has been all that is necessary this tonic may be used immediately or perhaps, better still, after the first day, using witch hazel first as described.

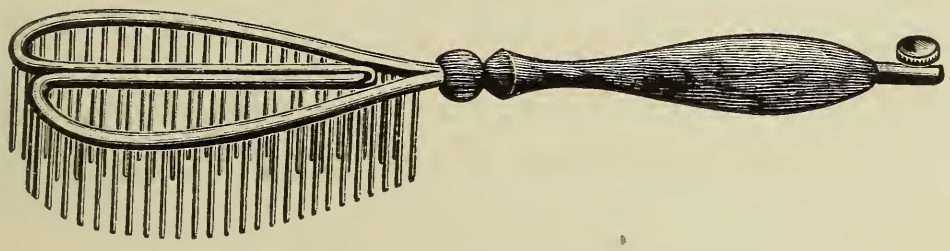
The cases where the oily secretions occur are treated in exactly the same manner in the matter of cleaning, as the scalp will need to be well soaked in order to free the scalp from the fatty material. The tonic used will, however, be different from the other, and may be applied immediately after the shampoo. It is made thus:

TONIC FOR OILY SCALP.

Quinine sulphate	20 gr.
Bay rum	4 ℥
Tinct. cantharides	1 ℥
Tinct. capsicum	1 ℥
Distilled water	8 ℥

In addition to this tonic treatment instructions should be given to the patient to bathe frequently, taking at least three warm baths a week, and if possible finishing each one with a thorough rubbing with salt.

One of the greatest causes for discontent in the work described here is not so much the failure to remove the dandruff, for the method described will positively do that, but in impressing upon people that the treatment must be continued until the scalp is in an absolutely healthful condition. When the loss of hair has been extremely great



A very desirable Germ-proof Hairbrush.

and the condition has been found to be complicated with eczema, even longer periods are required. Even when no complication exists and the loss of hair has been marked, it is often impossible to do much excepting to prevent further loss, for if the follicles are dead no new hair will appear in these portions.

Those who are possessed of that very desirable requisite persistence, will positively succeed in curing the most obstinate cases of dandruff, and the competent masseuse should have no difficulty in impressing upon her patients the necessity for application. After the condition has been cured shampoos should be taken at least every ten days, and if possible one treatment a week for scalp massage in connection with electrical applications. Of course, the

proper amount of rubbing will be done at home, and the scalp and hair should be thus kept in extremely good condition. In any and every case, the applications of oil first, are positively necessary, and must be made frequently, as directed, if the results are to be good.

CHAPTER XXVIII.

COMMON DISEASES OF THE SCALP.

Alopecia means a diminution in the quantity of hair, and is really the name for the symptoms of baldness that occur during the course of various diseases. It is customary to distinguish several varieties in accordance with the causation, time of appearance, etc.

As the student should be familiar with all of these names in order to talk intelligently upon the subject, it will be well for her to learn the definitions of each variety.

Alopecia congenita is that form of baldness found in infants which in some cases prevents a growth of hair until later in life and in a few instances has caused entire baldness all during life. It is considered a deformity rather than a disease for which there is no cure, though, of course stimulation and treatments may always be tried.

Alopecia senilis is the permanent loss of hair that occurs in old age and is to a certain extent, a physiological process though it also occurs most markedly and earlier in cases afflicted with seborrhea sicca or dry dandruff. The hair turns gray, becomes dry and lusterless, and is not replaced. The skin of the affected area is at first normal, but afterward becomes thinned shining and tense.

Alopecia prematurea is similar to alopecia senilis, but begins in much earlier subjects between the ages of twenty and thirty years, and is not preceded by grayness. Usually the baldness begins at the vertix and spreads in a vertical manner and always continuously, until the baldness is complete. Sometimes this disease produces an entire baldness in

the space of a few weeks or months. In other cases it takes years.

Alopecia symptomatica is the name given to falling of the hair when it occurs as the result of various general or local conditions. It may be partial or complete, permanent or temporary. This is the name given the condition that follows or accompanies syphilis, erysipelas and the various fevers such as typhoid, scarlet, variola, etc. Usually with care and treatment the hair will grow out as luxuriantly as ever.

Alopecia pityrodes, is perhaps the commonest form of the disease and baldness and occurs associated with chronic seborrhea. It occurs at all ages and begins with an ordinary dry seborrhea with slight reddening, scaling and itchiness of the scalp. The scales may be white, dry and composed chiefly of epithelium, but ordinarily they are grayish, greasy and seborrheal. The nutrition of the hair is interfered with, they become harsh, lustreless and dry and fall out.

Alopecia areata is the term given to loss of hair causing the appearance of more or less circumscribed white patches of varying size and shape, sometimes spreading to more or less complete baldness.

This disease usually affects the beard and mustache in men and occasions a most peculiar and unusual appearance quite as unpleasing to the beholder as to the victim. There is no inflammatory action or scaling in this disease and the skin of the affected areas seems whiter than normal. The course of the disease varies a good deal. Recoveries sometimes take months. The causes are not known, though some authorities favor the parasitic origin and some the fact that an injury to the nerves produces this condition. In any event the trouble is often found as a result of nothing

but nervous conditions and general as well as local treatment, therefore causes much benefit.

In all cases of alopecia the treatment must be directed to the stimulation and nutrition of the scalp and therefore the use of the tonics, massage, healing ointments and electricity will be found our most valuable agents. All efforts must be directed toward administering the greatest amount of stimulation that the skin will bear, the special means employed for that purpose being, of course, adapted to the trouble found, though ordinarily it will be found that the use of the negative galvanic current, deep massage, use of vibration and the blue light with tonics and scalp food will do wonders in even the most obstinate conditions.

Eczema of the scalp requires a varied treatment according to the age of the patient, length of time the condition has endured, length and thickness of the hair, general health, etc.

In all cases the patient should be requested to adopt a sensible diet, attend particularly to the use of laxatives, thus insuring the absence of constipation. If there is a suspicion that the eczema is caused by the use of a hair dye or restorer, all such applications must cease.

For the dry, squamous eczema the use of the scalp food rubbed in carefully each night with a shampoo taken at least twice a week and a use of the galvanic current and long exposure to the blue light will do much toward causing a speedy recovery, though of course in this connection it must be remembered that frequently several weeks will be required in order to get the best results from any treatment.

For the pustular or exuding variety of the disease thick crusts are apt to form. Often an application of the scalp food, forced in by a half hour's application of the blue light

for several days in succession will so soften and loosen these crusts that they may be lifted with the forceps and the food applied to the skin underneath before the shampoo. In some instances this treatment is not effective, and in such a rubber cap should be worn for one or two nights and then an application of five drams of almond oil, one of lanoline and five drops of carbolic acid used. The shampoo will usually re-remove the crusts, and by careful attention the condition can soon be relieved.

Electricity and the blue light will also be found a powerful aid in the treatment of this condition and these remedies should never be neglected.

Favus is a contagious parasitic disease of the scalp not especially common in this country, seldom found among people of cleanly habits, but when found sometimes mistaken for trichophytosis capitis—or ringworm.

It begins as a small reddish spot the size of a pin-head around the orifices of the hair follicles. These spots soon enlarge and assume a yellowish tinge growing until small masses the size of a pea with cup-like depressions are formed. They appear as yellow disks firmly attached to the skin, and pierced in the center by one or more hairs. Left to themselves these cups finally fall off, leaving depressed hairless areas behind them. The hair in such instances is dry, wiry and lustreless, while the odor from the scalp is most characteristic and "mouse-like."

The treatment consists in the removal of all the affected hairs with the epilation forceps. The scalp should be well anointed with the scalp food and cleanser each night, and a rubber cap worn. In the morning the surface should be shampooed with a green soap mixture and this treatment continued for six days. Then omitted for two or three

days and resumed again until a cure is completed. The shampoo is most important and should not be omitted as otherwise a speedy cure cannot be obtained.

Psoriasis, though not as common as eczema, is still very frequently found, and constitutes one of the most important of the inflammatory skin diseases. It affects all ages and people of both sexes, is intermittent in character and usually more severe in winter. It is found in athletes as well as those of sedentary occupations, and is differentiated from eczema by the fact that it appears in more or less circumscribed masses or patches covered with silvery white scales. When the crusts are lifted, minute bleeding points are exhibited.

Hygiene, bathing and good habits have a marked effect upon this trouble and arsenic is frequently prescribed as an internal remedy in connection with treatments.

Ordinarily the use of the negative current over these masses is very helpful. After the patches have been loosened and lifted up the scalp food and cleanser should be applied and forced in well with the blue light and these oily applications alternating with frequent shampoos and general treatments for the scalp given until the scalp is free from trouble. No authorities promise cure and in fact most of them disagree as to whether psoriasis is inherited or acquired, a disease or a deformity of the skin, but notwithstanding this, the writer has found in electricity and in treatments conducted as described, a most remarkably pleasing effect often resulting in complete relief from the intolerable itching that otherwise made the trouble so unbearable.

Trichophytosis or ringworm is a disease resulting from a parasitic growth that affects the hair follicles. The dis-

ease is very contagious and may be acquired from animals. It may also be acquired from combs, brushes, or the use of the same caps, hats, etc. When first noticed there are usually one or more small round patches upon which the hair is broken off close to the scalp. These partially bald patches are covered with fine scales and present a white, powdery appearance. Sometimes small half spheres appear, very painful, almost like abscesses and filled with a semi-fluid substance.

As this disease is one invading the hair follicle it is not only necessary to use an antiseptic ointment, but also to use the epilation forceps for removing all the diseased hairs. The scalp ointment should be applied not once, but many times a day, and the spots shampooed daily until improvement takes place. Great care must be taken in the use of towels, combs, etc., as this disease is most contagious.

However, with due care no trouble need be experienced and in all cases in which proper precautions and strict asepsis has been observed, the results have been most pleasing.

There are many remedies advocated by different authorities for the treatment of all these affections. In every instance, however, it will usually be found that the same results are desired. First of all stimulation is desired. For this purpose we can have nothing better than electricity and massage. The scalp food and cleanser embraces all the advantages of the antiseptic measures advocated, and has also a healing penetrating property not always found in the other remedies, while the follicle cleanser and tonics mentioned aid in completing a very effective number of preparations that can always be used with advantage.

In all these cases, however, it must be remembered

that the use of an oily material is plainly indicated and must be insisted upon if a cure is to be the result. Nothing great can be accomplished in a few treatments, but instead often weeks of patient work with the fullest co-operation on the part of the patient will be needed in order to secure either pleasing or lasting results. Diseases affecting the scalp and causing a loss of hair are often said to be results of our civilization, and hence we must patiently work in order to overcome bad effects contingent on this always considered desirable condition. Explain all the points of your treatment to your patients. Show "what" you desire to accomplish and "why," and you will find instead of unbelief a keen interest in the progress of the work.

CHAPTER XXIX.

HOW TO DYE AND BLEACH THE HAIR.

The universal desire to conceal or disguise the first unwelcome heralds of age—gray hairs—is so openly acknowledged that even those who disapprove of the practice of using dyes, still admit the longing to be almost a natural one. It may be of interest to the ambitious to learn that the oldest prescription on record is for a hair dye, and is credited to no less a person than Shesch, the mother-in-law of the first king of Egypt. Whether Madame Shesch intended this for her daughter Teta or wished to preserve her own appearance no one seems to know, but as the records state that the dye was hers we may take it for granted that she also made use of it.

Why the hair turns gray has never been satisfactorily decided. Some learned men declare that the blanching comes from the disappearance of the pigment cells. Others have by examination found the pigment as abundant as ever, but the corticle substance so dense that the color does not show through. There is no doubt that nervous strain, illness and heredity as well as advancing years may be cited as influences in this matter, and as in so many instances the growth of hair is as abundant as ever, there can therefore be no question as to the healthful condition of the scalp. Whatever may be the cause there has as yet been discovered no cure, so the man or woman who wishes to hide from associates has no choice but in the application of a dye. In many instances this process is a necessity. as the appearance of gray hair would mean dismissal from lucrative positions,

so in considering ways and means it is well to remember this fact.

There is an impression that hair may be colored permanently, but this is erroneous, for nothing can be dyed but the free portion outside of the follicle. Hence the process must be repeated from time to time, as the hair near the scalp will grow out a natural color, while constant brushing and washing will naturally take off part of the stain. The requisites for a good dye are not easy to fulfill, for everyone demands that the mixture shall be easy to apply, of a natural appearance and durable. It is almost impossible to find a dye made by an amateur that will fill these requirements, though a few of the manufactured articles will positively do so. However, as people love to dabble in the fascinating art of making strange mixtures, some of the simple recipes will follow.

The vegetable and organic dyes are usually harmless, next to these come iron and permanganate of potassium, then copper, bismuth and bichromate of potassium; next peroxide of hydrogen, silver and finally lead. The last two, of course, are generally recognized as used, though not by careful workers. Fresh walnut hulls are much used, and this method is really harmless. Henna is much employed to stain the hair red, and is so effective that even black hair will yield to its influence. By mixing henna with indigo a shade of brown is made and by using the indigo after the hair has been stained with the henna a very beautiful black is possible.

The process is very simple. First comes a shampoo that must remove all the oil from the hair. Then with great care single strands are smeared with a paste made by mixing henna with warm water. The hair is then left accord-

ing to the shade desired. If it is to be red and the hair is naturally dark, at least two hours will be necessary. Light hair will not take longer than an hour.

If the color is to be black it may be treated again with a paste made in the same manner with indigo powder and water. During this process the hair becomes a greenish black, later turning into a fine black that is very permanent. This process is even said to be beneficial, as far as increasing the growth of the hair is concerned, and in Turkey the manes and tails of horses are dyed red by means of henna. If one wishes to use the two ingredients at the same time the following formula may be of use, as it is said that by the application of this paste the hair may be dyed any shade, from light to dark chestnut brown:

Henna	1 ℥
Indigo	3 ℥
Water	4 ℥

The hand of an expert is required in this art, and in the use of henna it must be remembered that after the first dyeing, unless the process is continued the most incredible shades appear, green, violet, and a queer copper color, making the appearance so weird that it is impossible to be seen in public places, until the color has worn off.

For bleaching the hair the agent most popular is peroxide of hydrogen, and if properly used it may at least be said to be harmless, though the color produced is never at all natural and the constant touching up required becomes most monotonous. The application of the peroxide is most simple, and is easily made by the use of a small brush. The hair is first washed carefully and the peroxide poured into a saucer and the mixture applied. One application produces

a great change and more may be made as necessary. Ammonia is added in some instances, but it simply hastens the process and cannot do good while it does much harm by drying the locks. After the hair is thoroughly bleached, it needs constant watching to keep it in presentable condition. It must remain as light as it is always, unless it is allowed to grow out the natural color again, or unless it is dyed. After it is dyed it is impossible to rebleach it without causing the most disagreeable complications.

The use of peroxide to lighten or brighten auburn hair is harmless and effective, and it may be used to advantage by using an equal quantity of water and applying it to the hair after a shampoo, then fanning until it is dry. Muddy brown hair may also be brightened in the same way without injuring it.

A good dye for gray hair, or rather one that will restore the natural color is hard to describe. The following recipe is said to be extremely effective, and at any rate has the advantage of being less harmful than most of the dyes.

HAIR DYE.

Southern wood	1½ lb.
Olive oil	1 qt.
Port wine	1 pt.

Bruise the wood and boil it in the olive oil and strain through a cloth. Get fresh quantities of the wood and repeat the operation twice. Then add the port wine and allow it to stand several days before using. This is too oily to suit most people, so the next recipe will be more popular. It is said to have been advocated by Lola Montez.

INSTANTANEOUS HAIR DYE.

Gallic acid	10 gr.
Tinct. sesquichloride or iron	1 ℥
Acetic acid	1 ℥

Dissolve the gallic acid in the sesquichloride and add the acetic acid, wash the hair and apply the dye when it is thoroughly dry.

In the practical use of a dye it is always advisable to procure one from some reliable firm. First, because it is then properly made, and second because by means of thousands of experiments information as to the probable effects can thus be obtained.

No one, not even an expert in the line, can tell positively just how a dye will act. For instance, if the hair has been bleached and bleached until the tips are a straw yellow and the hair near the head a sort of orange shade, the use of dye may effect a uniform change and may on the other hand only produce a streaked appearance. In this instance a second application would be necessary, and here again care must be used in order to avoid making the hair too dark.

Then, too, if the hair has been dyed with some other preparation, the effect of that particular one used by the operator may not have at all a good effect.

Henna is a harmless dye, it is true, and is invariably used for producing the Titian shade; but, alas! even this vegetable preparation is treacherous, and so my lady of the beautiful coloring may wake up any day and find her hair streaked with strangely metallic tints varying from a bronze to a green, and requiring often a complete dyeing with another preparation to make the effect anything like presentable.

When a subject who has been through the process applies for treatment, the wise operator will carefully shampoo the hair with a mixture she knows to be free from anything but soap and perhaps a little soda. Then she will examine the locks to see how many shades she can find, and if she is at all doubtful of her work she would better tell the subject before commencing the task.

With a new subject the matter is very simple, for if she can be sufficiently impressed with the fact that neither the shampoo mixture nor the dye should be varied and that the "touching up" process should be repeated at least once every four weeks, the chances are that she can keep her tresses in really very excellent condition. In this connection, however, it must be remembered that the general condition has much to do with the appearance of the hair, and thus when a person is feeling very ill or run down the hair never takes the dye as well.

A new and excellent dye now comes so that all sorts of shades can be made by using varying proportions of certain mixtures. This dye produces every shade from ash-blonde to black, and can be applied very easily. An excellent method for producing a very pleasing result with this particular mixture, is to dry the dye into the hair by the use of the blue light and then follow this by a brushing with the electric current, the effect being to produce a very pleasing lustre, as well as a far more uniform appearance than by any other means.

The hair restorers are really nothing but milder forms of hair dyes that may be applied at more frequent intervals. They appeal to the class of women who refuse to admit they would use a dye, and some of the really good hair dressers recommend and use the best articles in this class.

Here, too, care must be taken not to procure a mixture that will produce a green or a purple effect, but instead one that has at least a tendency toward the genuine coloring. Restorers may also be used at home, and are therefore most popular with the amateurs.

The woman who desires to obtain the best results should get the most reliable preparation, and if possible have its action explained to her. If she cannot afford to have a competent hair-dresser apply the dye she should follow the directions to the letter and the results may be very pleasing. The shampoo should be made imperative, as it is almost impossible to apply any dye and have it act properly unless the hair is washed. Another point of importance is the kind of shampoo used. One that will not produce complications by inducing peculiar combinations of chemicals is, of course, necessary, and hence it is well always to use a mixture, the ingredients of which are known. For that reason the shampoo mixture mentioned in a previous chapter will be the best for general use.

In using any dye the skin of the face should not be touched by the liquid, and the dress should be protected by a rubber cloth, while the hands will, of course, be encased in rubber gloves. The bottles containing the staining mixtures should be placed on metallic trays or on something that cannot be discolored, and the utmost care taken not to allow drops of the dye to be spattered on the clothing or carpet or anything that may be injured. A little experience very speedily shows the average woman that the art of dyeing the hair is one that deserves recognition as a most difficult and delicate process, unless there exists that natural adaptability that enables one to know intuitively just what to do and how to do it.

Finally, although there are given so many precautions and warnings, it is not fair to frighten those who feel the necessity of using dyes, for there are thousands of people who have used them successfully for years without any injury to either the scalp or hair. The process is a peculiar one, and it must be done with the greatest of attention to minute detail if it is to be pleasing. Thus performed, the results will be as desired.

CHAPTER XXX.

HOW TO GROW THIN.

The woman who carries in addition to the regulation number of burdens, that additional one—superfluous flesh—has indeed a right to demur.

For her, life can never be exceedingly comfortable. Every effort tires her. Changes in temperature may mean actual suffering, and physically she can never be at her best while this huge load of fat presses on all of the vital organs, shortening her breath, impeding the action of the heart and liver, and almost invariably producing some serious complication.

The accumulation of flesh usually commences about the age of twenty-eight, sometimes a little earlier or later, and though frequently found in people inclined to be physically indolent, there are exceptions to this rule, for the busy housewives are often quite monumental in appearance, though leading active lives. In such instances, the food and body exercises and baths will be found of the greatest importance in the process of reducing flesh.

In respect to this question, as in many others, the various authorities have met success in different ways, although they have all agreed upon the main items. There are many phases to be considered in this work before attempting it, and among the most important are those regarding the danger to the physical well-being by reducing so rapidly that the organs may be weakened. This rapid process is almost inevitably the result of taking strong drugs, and the thoughtful person will hardly care to con-

sider such a course. Bathing, too, may be dangerous if the temperature of the bath is high enough to cause increased heart action in one whose heart is already weakened, while exercising must be undertaken with caution and according to set rules, if it is to be of benefit.

After considering well the phases to be avoided, the student should first learn the theory of treatment, then follow it, and inevitably she will find herself wonderfully improved in health as well as greatly decreased in weight. Even with organic troubles, those who are too heavy may manage to become a great deal smaller, while ordinary fat people can easily make themselves just what they desire to be if they will but persevere in the treatments indicated.

The cause of obesity is said to be a disturbance of cell activity. An over-use of carbo-hydrates tends to increase the fat greatly, while alcoholic stimulants or an excessive diet of fats and starches also aid in this work.

The effects of obesity may be seen in the sluggish condition of the circulation, torpid liver, weakened heart and kidneys, and disinclination to exertion, both mental and physical. The vital capacity is also much less, and experiment has shown that for every kilo of weight above the average, there is a corresponding decrease of 37 c. c. in this respect.

In reducing the flesh the dietetic treatment is all-important, and should be carried out accordingly, with due regard to the necessity for systematic bathing and exercising as well. The best method is naturally that which not only reduces but also performs the work without weakening the patient. In some instances where there is anemia present with weakness of the heart, the treatment must be an invigorating one, and in all methods there should be exer-

cised an effort to avoid measures that are too severe to be consistent with health.

Banting, Ebstein and Oertel are the most quoted authorities on this subject, and each plan has certain advantages, but none can be used in all cases. A strict avoidance of all the foods of a certain nature is apt also to impair the digestive properties, so in general practice it is well to limit the diet, but also to use as many articles as possible in strict moderation. For instance, the use of sweets may be supplied by saccharine, the starchy foods may be represented by the bread and the peas and beans allowed, thus making the diet a mixed one. The following list will be found sufficient for the majority of cases:

BREAKFAST.

One egg, either poached or boiled, one cup of coffee or tea sweetened with saccharine if necessary, toasted bread, wheat bread, or graham, 2 ounces fruits, such as oranges, grape fruit, or apples. (One only being allowed.)

Immediately after breakfast a two-mile walk should be taken if possible; if not, the use of the body exercises may be tried, paying especial attention to those calling for bending, such as I, II, III and IV. This work should consume at least fifteen minutes, and following the exercises the body should be sponged off with salt water.

Two hours after time of meal a glass of some mineral water should be taken, preferably Vichy one day, Kissingen the next.

NOON MEAL.

Soup, 3 ounces; fish, 3 ounces; roast or boiled beef, veal, game or poultry, 6 to 8 ounces; green vegetables, 2

ounces; bread, 1 ounce; fruit, 3 or 4 ounces; 4 to 5 ounces of any light wine. No liquid aside from this is to be taken with the meal.

Two hours after meal, a glass of mineral water.

EVENING MEAL.

Caviar, 1½ ounces; 1 to 2 soft-boiled eggs; beefsteak, fowl or game, 5 ounces; salad, 1 ounce; cheese, 1 dram; bread, 1 ounce; fruit, or water, 5 ounces.

Before retiring, a complete body bath in warm water may be taken and the entire body well scrubbed with soap and water, followed by a cold sponge, unless the action of the cold water is unendurable. Following the bath the breathing exercises may be practiced, especially the last four, although all of them will be found excellent.

In twenty-four hours after the beginning of this program, weight will have been lost, and the decrease should be steady until the average weight has been reached, when the strict process can, of course, be stopped, and by attention to food and exercise the accumulation of flesh discouraged.

In connection with exercising and bathing, care must be taken to prevent the skin from becoming withered or flabby after this loss of flesh, and hence at least once a week a thorough massage of the body should be given, while massage of the face and neck should be an every day affair. For this follow the directions given in chapters on massage.

In cases of nervous dyspepsia, the use of electricity has been most beneficial, and the current may be used over the spine, at back of head, and upon the diaphragm, with most excellent results.

Bodily exercise is, of course, of much importance, and

persistence means that where the flesh was, firm muscles will exist, and the creases and crevices so dangerous to beauty will not appear. For those who feel that the decrease in flesh endangers the appearance, the following lotion may be used with extremely good effect. It is best applied after the evening bath.

Rose water	8 ℥
Tinct. of benzoin	1 ℥
Milk of almonds	2 ℥
Sulphate of aluminum	½ ℥

Dissolve thoroughly and filter until clear. Keep in a dark bottle in a cool place and apply with a sponge daily.

The cold sponge is especially recommended after the ordinary warm bath, and even the most delicate may in time accustom themselves to this by commencing with the use of tepid water, and gradually adding the colder until the desired temperature has been reached. Salt may be added to the water with very good effect or the towels may be dipped in a saturated solution of salt, allowed to dry, and then used to scrub the body with. The effect of this friction is most beneficial.

The following table of weights is the one most generally accepted, and any great deviation from this either way should be corrected as being inconsistent with health. The normal woman should not vary more than two or three pounds from these figures. If she does, her only remedy is a strict observance of rules given for the correction of this condition:

5 feet	1 inch	120 to 123 pounds.
5 feet	2 inches	126 to 128 pounds.
5 feet	3 inches	133 to 135 pounds.

5 feet	4 inches	136 to 138 pounds.
5 feet	5 inches	142 to 144 pounds.
5 feet	6 inches	145 to 147 pounds.
5 feet	7 inches	149 to 151 pounds.
5 feet	8 inches	155 to 157 pounds.
5 feet	9 inches	162 to 165 pounds.
5 feet	10 inches	169 to 171 pounds.
5 feet	11 inches	174 to 176 pounds.
6 feet		178 to 182 pounds.

CHAPTER XXXI.

HOW TO BECOME PLUMP.

The thin woman may glory in being willowy in her youth, but as in the early thirties she sees the deep creases and the tiny lines that appear with the evident determination of acquiring a permanent position, there also comes the desire to acquire a few pounds of flesh to assist in covering the too apparent bones.

All wasting diseases will produce this excessive leanness, but if there is no trouble of this kind to contend with, and no inherited tendency, much can be done toward correcting this condition. It is peculiar, to say the least, in studying the best measures for putting on flesh, to find how many of the rules for taking it off must be observed.

Exercise in the open air is as important for one as for the other. The body exercises for development are always to be used, while those in breathing found the very best basis for this treatment. Exercises especially beneficial in this respect are those in which the abdomen and chest are made to expand against pressure. Of course, in performing any of these movements care will be observed to carry none of them to excess, and to avoid becoming over-exhausted at any time.

Bathing may be used almost as extensively as in the case of superfluous flesh, with the difference that after the use of a very warm bath much time should be employed upon the massage of the body, using as much oil or skin food, as the pores will absorb. After a bath of this kind much rest should be taken and a light lunch eaten before

dressing. For instance, a glass of milk and a roll or two, or poached eggs and cocoa or a glass of ale will be found excellent foods for this condition.

The bath most beneficial for this purpose is that obtained by pouring into the tub two quarts of bran, and allowing it to remain in the warm water for twenty minutes before entering. This bran may be used for rubbing the body by mixing it with castile soap, and after a vigorous friction, the body should remain in the water for at least twenty minutes, finishing with a thorough massage of the entire body.

Each day after luncheon, a rest should be taken, and upon rising if there is any appetite for food, a cup of chocolate or glass of milk or tea with toast may be taken. Much sleep is extremely beneficial, as the majority of thin people are exceedingly active, and do not get the rest they require.

Many women have found the use of porter or ale to be most beneficial, but as the use of these stimulants is often attended by a desire for something of the kind constantly, it is well to use remedies less apt to be attended with bad after-effects. Any sour wine such as claret or Rhine, or the use of many acid fruits, such as lemons, oranges, grape fruit or limes should be avoided.

When the one who is thin is also exceedingly nervous, sufficient rest must be made a positive law, with the use of electricity if her nerves seem entirely beyond control and a tonic of hypophosphites to assist in toning up the system. The following diet will be found the best in most conditions:

BREAKFAST.

Cup of tea or coffee with as much cream and milk as can possibly be employed. Any of the cereal foods, berries

or fruit with sugar, baked potatoes and a lamb chop.

This menu will seem rather elaborate to many, as the "no breakfast" fad is widespread, and both corpulent and emaciated women have accustomed themselves to either nothing at all in the morning or one cup of coffee with perhaps a slice of unbuttered toast. All thin people should make an effort to make this morning meal a substantial one, as it does more to keep up the strength and prevent undue strain than any other meal in the day.

In the middle of the morning, after exercise in the open air, it is well again to take a light lunch, and this may consist of toasted crackers with a glass of milk or eggnog. After this lunch, of course, the ordinary occupations may be pursued as usual, and at noon the following menu will be found the best:

LUNCHEON.

Potatoes, any of the green vegetables, omelette, bread and butter and fruits, cold meats and milk, chocolate, or cocoa, or milk.

After lunch a rest of at least one-half hour should be taken, or if possible a long nap, followed by a lunch during the middle of the afternoon.

DINNER.

Any of the nourishing soups, fish of any kind, meats, such as rare roast beef, chicken, sweets and fruits. Beer, porter, Burgundy or a little sweet champagne may be taken.

After dinner a little light exercise should follow, and especial care should be used to avoid making the hours for retiring late. The warm bath, as described, can well be taken at night with the careful massage following and a glass of milk may be taken just before retiring for the night.

The diet in all cases will be found to be most important, and excesses should be guarded against. Although sweets are fattening, too many are apt to cause emaciation, just as surely as the average use encourages corpulency. In nearly every case of extreme thinness, the patient is found to have a peculiar appetite. Rarely is there observed a healthful longing for food best suited to her condition. The desire may be for sweets or for sour fruits or pickles, but it is invariably for something that will injure the digestion.

Tendencies of this kind may be overcome by persistent effort and determination. If necessary, a good tonic may be employed to aid in the work. In any event the determination to acquire a healthy appetite may be met with success, if sufficient interest is shown in the matter.

The matter of nerves must be especially considered in these instances, and if the subject is extremely irritable, allowing every small matter to disturb her, she must simply call a halt in her round of duties by weeding out every unnecessary task, and spending sufficient time to thoroughly cultivate that state of calm and repose necessary to peace of mind. The rest cure may be taken in the heart of the city as well as in the quiet of the country, for wherever there is sufficient will, there is bound to be success, and this may be easily proved by any one who will make the effort.

CHAPTER XXXII.

PHYSIOLOGICAL DEVELOPMENT.

It is not alone for the benefit obtained in acquiring a graceful carriage, or in the symmetrical development of the body, that the proper system of exercising is advocated; but chiefly on account of the positive increase in both mental and physical capacity for sustained effort, obtained by those who have the will to adopt, and the perseverance to practice the movements best suited to their needs.

It cannot be denied that much harm has been done by the use of exercises too violent for those with weakened constitutions or any organic trouble of the heart. However, in teaching of the wonderful results to be obtained from this work, full emphasis has been placed upon the absolute necessity for caution, and in addition, only the exercises that may be attempted with perfect safety have been selected for lessons.

Exercise should not be relegated to young, but should be encouraged in the middle-aged and old people as a means of preventing fatty changes, and the process of degeneration peculiar to age, in which the blood vessels wither away and thus cause excessive tissue waste.

These processes may in a great measure be prevented by persistent and systematic effort to keep all of the muscles in working condition, as well as in maintaining a good circulation. In this manner the capillaries and blood vessels instead of contracting, may be kept at their greatest capacity, thus insuring sufficient activity.

The anecdote of the man who commenced lifting the

calf from the time it was two days old, and thus proved that when it became a huge animal he could still perform the same feat because his muscles had been trained and gradually adapted to the increased effort, is a very good illustration of what daily work will do for everyone. If it could be kept up, or rather if it were continued as it should be, and proper vigor could be maintained, the man of sixty would be far more supple than the boy of sixteen.

One of the most prominent educators in this country, who was opposed to anything in the way of violent exercise, or indeed, even to mild efforts, or anything else, that would take him away from his books, has recently been made the object of some very curious experiments in order to prove that a man of fifty-five could be trained in the greater part of the work done by the college athletes. The educator had declared so vigorously that he could never be improved by this method of development that when a tempting wager was made he finally agreed to undergo training for six months, adopting the diet as well as the work lined out by the advocate of physiological development.

At the end of three months the stiff lines and awkward gait had been supplanted by an erect carriage and semblance of ease. Six months found him a different man, not only physically, but also in regard to capacity for mental effort, a matter easily proved, as this new work did not interfere with the ordinary duties of life. At this time arrangements were made to prolong the training for one year, and then to his delight he found he could perform the following exercises with ease:

He could stand on a block eight inches high, and, reaching down, lay his hands on the floor, palms downward. He

could lay his hands flat back on his wrists and easily slip his toes in his mouth. In addition to these proofs of suppleness he could hold a cane horizontally, clasping each hand about it behind his back and then raise it above his head. A trial at raising the hands alone will soon convince any one how difficult it must have been to acquire the ability to do this last exercise.

Of course, the results of this work were quite sufficient to make an ardent enthusiast of the educator, and as a consequence the athletic portion of the college boys soon found an ally who assisted them whenever possible.

Instances without number may be cited, showing that those who are in the habit of exercising habitually will not only live longer and happier lives, but will also enjoy comparative immunity from sickness and attacks of melancholia and will be decidedly prone to the comfortable condition in which neither the extreme of corpulency nor emaciation will be experienced. Twenty minutes spent in this work each day will do wonders for any one who is earnest in the work within a year's time. The increased interest among women is already showing wonderful results in the finely proportioned types styled the American girl.

Especial emphasis should be placed upon the benefits to be derived from this work by those who have passed middle age. There has been a feeling that all efforts of this kind were unavailing excepting during the earlier years, and as a consequence the interest has not been as great as it should be. No one is ever too old to be benefited to some degree by work carried on properly, and every person should be convinced of this fact. There are too many instances of activity among people who have passed the allotted threescore and ten to make one feel that there is anything like an age limit in these enlightened days.

Full breathing stands at the head of every list as most important as well as absolutely necessary to perfect health. The room one sits in may be filled with fresh air, but unless it is taken into the body correctly by an effort that shall not only fill the lungs, but also exercise the entire abdominal region, breathing is not properly done. In all labored respiration, the abdominal muscles act by diminishing the abdominal cavity, and pushing the contents up against the diaphragm. The contraction of the diaphragm, by increasing the intra-abdominal pressure, favors the venous blood current in the abdomen toward the venacava inferior. Thus the act of breathing correctly and deeply is seen to have an immense influence in actively exercising the organs so vitally important if health is to be maintained.

Breathing should be done through the nostrils, because, as the current of air passes through the pharyngo-nasal cavity, it is rendered warm and moist, and the irritation of the mucous membranes of the air passages by the cold air is prevented. Small particles of soot or other foreign substances adhere to and become embedded in the mucous covering and are carried outward by the peculiar mechanism of the respiratory passages, and finally disagreeable odor and impurities of the air are detected by the sense of smell.

Oxygen, the great purifier, is present in large quantities in fresh air, combined with nitrogen and carbonic acid gas—CO^2. Taken into the body by the means of respiration it revivifies the blood, assists in the construction of the new tissue as well as in the breaking down of old. Air once breathed has been deprived of a great part of its oxygen, and possesses a marked increase in CO^2. Hence, in order to take in as much of the life-giving oxy-

gen and as little of the inert CO^2 as possible, the same air should be breathed but once, thus making perfect ventilation a necessity in all apartments.

Fresh air is as necessary for the most robust as for the weakly, and the allowance of space necessary to secure sufficient air for each individual should always be considered in respect to the healthful condition of rooms. Ordinarily 800 cubic feet should be allowed for a healthy person, and 1,000 cubic feet for one who is sick. In addition to the allowance of air, care must be taken to insure the free admission of sunlight, in order to get rid of the organic matter that is constantly given off. A very good illustration of the fact that this organic matter given off by means of the breath is filled with numerous bacteria may be tried by breathing into a jar of distilled water, and then placing the vessel aside. In a very short time the water becomes fetid. Hence it will be seen that to insure perfect ventilation, as well as the best condition of an apartment, both sun and air are required.

In learning to breathe correctly the exercises should be taken in a room previously well ventilated or by an open window. Any muscular effort causes an increase in the CO^2 given out, so much more care must be exerted to keep the pure air in sufficient quantity to make the exercises beneficial. The good effects of correct breathing are remarkable. Chests expand. stomachs recede, cheeks show more color and eyes are brighter, while the general health is, of course, far better. The process of breathing should not be spasmodic, but natural, with a certain rhythm. Those who puff out their cheeks and go through numerous other facial contortions, such as gasping and gurgling, are harming themselves in more ways than one, and are doing

absolutely no good. Care must be taken to learn the proper method, and then the results will be all that can be desired.

Rapid, violent breathing is to be avoided, as it may produce serious injury to the pulmonary tissues. Shallow breathing is of no benefit whatever, and in this very important work every exercise should be performed with the mind absolutely concentrated upon the subject, as well as with a steady determination to go at the work with the intention of producing the effect desired. The time given to breathing may be increased from day to day. If exercises seem too difficult for the first trial they may be made easier until finally they can be accomplished with the utmost ease.

The busy woman, who feels every moment is precious, if properly dressed, may practice deep breathing as she walks to her daily occupation. With shoulders thrown back, head erect and hands at her side she may inhale slowly while she counts five, exhale while counting seven, and so on until the utmost capacity for the lungs has finally been reached. This, of course, means that her clothing must be worn so comfortably that the abdominal muscles may be used with every breath.

If the great distance precludes an attempt at walking, the breathing exercises may be practiced upon retiring at night, and in fact some of the most excellent are performed while in a recumbent position. During the day, if the head feels heavy and there is a sensation of weariness that makes the work drag, five minutes of deep breathing by the open window will send the blood bounding through the veins and so clear the brain that the capacity for accomplishing is almost doubled.

So enthusiastic are the advocates of correct breathing that it is said one of the foremost actresses attributes a great part of her success to her knowledge of this art. If tried beyond her strength by some strongly emotional art, or if feeling unequal to the work before her, she immediately gets into the open air for long enough to practice inhaling and exhaling ten deep breaths, and returns feeling refreshed and invigorated.

It is frequently impossible for any person of ordinary environment to go through the long and vigorous courses prescribed by those who make a specialty of this work. Hence in giving the following exercises care has been taken to select those that will sufficiently exercise the vital organs as well as the muscles and yet will not be in any way injurious. Many excellent exercises will need to be omitted, simply because it is impossible for any one to do them without instruction. However, if these that are given are practiced as they should be there will be found little need of anything else. Every woman, no matter what her occupation, needs to learn and practice deep breathing. The following examples will suffice as illustrations of the most important portions of this work.

Exercise I. Assume a recumbent position by lying flat on the couch or floor and relaxing all of the muscles. Then inhale slowly through the nostrils, and as deliberately exhale. Place the hands lightly on the abdomen, and if the breath is taken correctly the abdominal muscles will become inflated first, then the chest. In order to make the work rhythmical commence by mentally counting five while inhaling, and seven while exhaling. Repeat five times, gradually adding to the count as the strength increases, and always being careful to perform the work methodically.

This exercise is excellent for practice in inflating the lungs properly and may be practiced in bed before rising, thus commencing the day well.

Exercise II. Still in a recumbent position exhale fully, pressing lightly with both hands upon the abdomen. Inhale fully, resisting pressure, which should increase with each



FIG. I.



FIG. II.

time the exercise is performed. These two exercises will make the diaphragm strong and elastic, and the entire lung tissue will be expanded. Repeat this five times at first, increasing gradually.

Exercise III. Assume military position. In order to ascertain if this is properly done, stand with the body touching the wall, and if the back of head, shoulders, buttocks and heels touch, the attitude is correct. Then place

hands on side close to armpits, as illustrated in Figure I, and resist expansion of side muscles. Exhale with pressure still continued, and during the exercise proceed with mental counting, as directed in first exercise. Perform five times.



FIG. III.



FIG. IV.

Exercise IV. Assume attidude as in Figure I, placing hands on upper part of chest and again inhale against the pressure of the hands, exhale without the pressure. Continue the counting as before and use the same number of times.

Exercise V. Assume attitude seen in Figure II, and inhale while raising the hands straight out and up, exhale

while coming back to original position. Continue counting as before. This work is excellent for raising the chest walls and for lengthening the waist.

Exercise VI. Assume the attitude of Figure II, and exhale while dropping the hands at the side, inhale while



FIG. V.



FIG. VI.

bringing them up to original position. Continue counting as before, and after the first or second trial exert a little pressure, bringing them up against this and relaxing as the arms go down.

Exercise VII. Assume position of Figure III, throwing the head back as far as possible, and interlacing the fingers back of the head. Fill the lungs to the utmost ca-

pacity, hold the breath, and then resist, and in spite of resistance pull the head downward, at the same time exhaling. This is rather violent and cannot be done successfully at first. In beginning, two trials will be sufficient, gradually arriving at five and never performing any more than this number of exercises at any lesson.

Exercise VIII. Assume position shown in Figure I, with hands at side, and exhale all of the air from the lungs. While holding them empty draw in the abdomen as much as possible, and then extend it forward to its greatest capacity. Do this as rapidly and as often as control over respiration will permit. It will strengthen the stomach and will reduce superfluous flesh over abdomen as no other method can. This ends the exercises in breathing, and as these are positively the best to be obtained the student who learns them correctly and practices them methodically will be positive of improvement.



FIG. VII.

In practicing breathing, a feeling of dizziness is often experienced, and in some instances the action of the heart is greatly increased. In such an event, do not attempt to work until every uncomfortable sensation has departed, for it will not benefit. The average rate of inspiration is from ten to twelve seconds, with fifteen for exhalation. It is not necessary for the average person to develop too greatly, so when this point is reached it may be as well to continue the work at about this rate. After a

week or so of systematic effort the exercises may be performed with ease in a very short time, and the vital capacity will be found surprisingly increased.

CHAPTER XXXIII.

BODY MOVEMENTS.

Fully one-half the ailments that perturb the feminine portion of the world could be avoided if women would but be persuaded to exercise properly. If, in addition, they would eat wisely, bathe systematically and rest when necessary the number of invalids would indeed be few.

Happily for the advocates of "healthful living," the proper system of exercising is usually a means to an end, and after the proper system of exercising has been taught, the pupils, in delight at the improvement in appearance and in capacity for work as well as enjoyment, are usually only too anxious to proceed in the path outlined. Thus the evolution of the best system may be insured.

The world of today is an exceedingly busy one. Nearly everyone is engrossed in a mad endeavor to accomplish some purpose, and this object usually requires every spare moment of time. The lined brows, nervous, twitching eyes and pallid cheeks of these victims of modern progress point only too plainly to the price paid for the accomplishment. This condition is not limited to any particular class, for in every grade of society the number of overworked are to be found. The busy housewife, nervous society woman, tired clerk and overworked teacher acknowledge the need for rest and change, but fail to find leisure in which to make an effort toward improvement. As a consequence the number of interested workers in the realm of physiological development is correspondingly small, and some plan must be devised by which the work may be made possible for all classes.

In the preceding exercises the attention has been paid more particularly to the development of the lungs, improvement of circulation and exercise of abdominal muscles with a view to strengthening the diaphragm. These that follow will be particularly adapted to strengthening the muscles of the arms, legs and back, and will be excellent for producing a symmetrical development of the figure and a reduction of superfluous flesh.

Exercise I. Assume position of Figure II, and then bend from side to side, as illustrated in Figure IV, keeping the knees rigid and heels together. This exercise should be performed at least twenty times with arms outstretched as seen in illustration. Reduction of the hips will follow the use of this exercise, and also a lengthening of the waist line.

Exercise II. Assume military position, as illustrated in Figure I. Then stand with the feet apart and the toe of one slightly raised as the hand on one side slips down toward the knee while the other is kept under the arm. Alternate this work first on one side, then on the other, as the one hand comes up, the other must slide down, until this has been done twenty times. This is called "lifting the liver" and is excellent for curing constipation.

Exercise III. Assume positions shown in line drawings, A, B, C. First the military attitude as in A, placing hands on back of chair. Then raise on tiptoes, as shown in Figure B, and descend into a sitting position, as shown in Figure C. In this work, ascend on the toes as high as possible and descend as near the ground as can be, all of the time keeping the body erect and steady. A very good way to perform this work is by placing a book or some other object on the head and attempt to do the work in this

manner. In this way the erect position will be maintained. Repeat until the muscles ache.

Exercise IV. Assume position of Figure D, raising the arms high over the head, bringing them forward in a sweep and touching the toes without bending the knees, as in Figure E. This will seem very difficult at first, but after a short time can be easily done.

Exercise V. Repeat same exercise, but twist the body to the side, and attempt to touch the heels instead of the

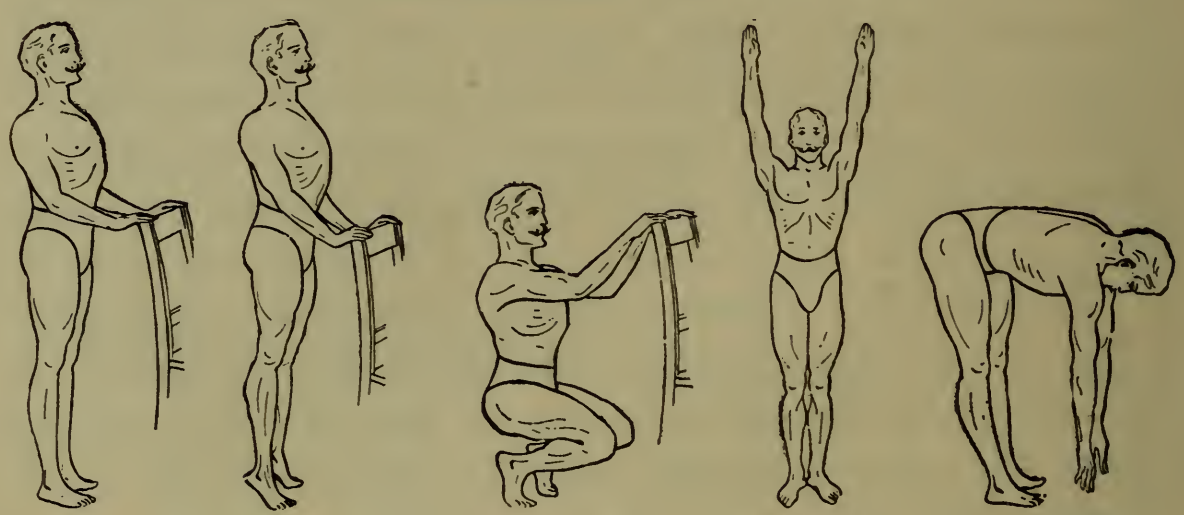


FIG. A. FIG. B. FIG. C. FIG. D. FIG. E.

toes. Repeat, first on the left side and then on the right. This is extremely difficult and may require too much exertion from some beginners, so should be attempted once at the first lesson and never done more than three times in succession.

Exercise VI. While in bending position illustrated in Figure E, bring the hands against pressure, out at each side, and up as far as possible. Do this at least five times.

Exercise VII. Raise the hands above the head, as in Figure D. Turn the arms until the palms meet over the head, lower them with palms still upward, until on a level

with the shoulders, and then drop them to sides. This exercise rests the heart and is best performed during the course of exercises rather than at the beginning or end.

Exercise VIII. Take attitude shown in Figure V, and bend with hands held above the head as far backward and as far forward as possible without changing position of hands or allowing the knees to bend. In this exercise first one foot is advanced and then the other, and the work is continued until at least twenty trials have been made.

Exercise IX. This is excellent to make the body supple and should be practiced diligently. Figure VI illustrates nicely just the position to be maintained. The weight rests on one foot and the toe of the other just misses the ground, the limb being held stretched out as far as possible, while a rotary motion of the entire body is practiced until a semi-circle is described.

This work may be done first with one foot extended, then the other, and in time will be found very easy.

Exercise X. In this, the practice of balance is made possible by taking pose seen in Figure VII and by attempting to touch the floor with a handkerchief in the hand on same side that knee is kept rigid, while the other hand is held in such a manner that balance may be maintained.

This will need to be attempted many times before success crowns one's efforts.

Of course there are countless changes on the exercises enumerated, as well as many that are entirely different. It would require so much time to perform all of them that not one person in a hundred would even dream of attempting them, hence just those most practical have been given.

In beginning, perhaps twenty minutes day and night will be required in order to perform the work well. After

some little practice, twenty or twenty-five minutes will be quite sufficient for this purpose. It must be remembered in this work that symmetrical development means the equal development of all parts of the body. Hence in exercising there can be no favoritism shown, but, instead, the work must be done as directed. In this way every muscle will be sufficiently employed. The saying that "it is not what we know, but what we do with what we know that makes success in business, love or health," is fully exemplified in this work of developing the body. Perseverance is a most necessary part of any attempt of this kind and will make the results exactly what they are desired to be.

N. B.—It has been the aim of the author to make this book a practical system of instruction for all women who wish to use the newest and most approved methods. Any points that are not clearly understood will be cheerfully explained to all who will enclose a stamped and addressed envelope, sending to

EMILY LLOYD,
Western Methodist Book Concern Bldg.,
57 Washington Street, Chicago, Ill.

INDEX

PAGE

Abnormally Sensitive Skin 92
Advisability of Using Discretion in Work 18
After-Treatment by Electricity 175
Almonda Creme 26
Alopecia 273
Anecdote of Educator 300
Ancient Customs in Regard to Ointments 21
Appearance of Normal Skin 15
Appearance of Pure Oils 25
Appliances that Cause Wrinkles 33
Approaching Age 16
Antiquity of Powder 110
Arms, How to Improve 218
Art of Bathing 115
Astringent, How Used 63
Attainment of Perfect Development 42

Bad Breath 233
Band, Head 167
Bandaging Feet for Removing Inflammation 238
Bandaging Inflamed Joint 243
Banishing the Crows' Feet 33
Bath, Bran 118
Bath, Electric 118
Bath, Faradic 119
Battery for Office Work 148
Battery, Fourteen Dry Cell 147
Battery Fluid 153
Battery, Ideal 152
Battery, McIntosh, Dry Cell 186
Battery, Section of Faradic 155
Battery, Section of Galvanic 153
Battery, Simplest Form 139
Bathing, The Art of 116
Bath, Liquid 117
Bathing Powder 112
Bath, Sulphur 118
Benefit to be Found by Dieting 289
Benefit Derived from Electric Needle 73
Best Needle to Use 170
Blackheads 64

PAGE

Blackheads, How to Cure 78
Blackheads, How to Remove 66
Blackheads, How to Treat 67
Blackheads, Special Massage for 65
Bland Ointment 271
Blanching the Skin 188
Bleaching Hair on Arms 190
Bleaching the Hair 280
Bleaching Liquid for Moth Patch 83
Bleaching Lotion for Nails 216
Bleaches, Powerful Cause Cauterization 16
Bleaching the Skin 190
Body Movements 310
Bran Bath 118
Bran Shampoo 250
Brush, Proper for Teeth 234
Breath, Bad 233
Breathing, Full 300
Breathing through Nostrils 302
Buffer, Use of 215
Busy Women May Exercise 303

Care of the Feet 236
Care of the Hands 203
Care of the Hair 245
Care of Neck 222
Care of Skin 21
Cause of Age Lines 34
Causes of Obesity 289
Cauterization, Produced by Powerful Bleaches 16
Caution in Using Proper Pole 184
Certainty of Improvement in Using Proper Treatment 63
Chilblains 244
Chin, Treated by Rotary Motion 60
Cheeks, How Massaged 59
Chloasma 83
Cleansing and Opening Pimples 69
Cleansing of Scalp 247
Cleansing Mixture for Sensitive Skin 93
Clipping Hair 263
Cold Water for Puffiness of Eyes 59
Combined Office Plate 152
Comedone Extractor 67
Comedone Extractor, Use of 68
Constipation 77
Contents, Table of 9
Correct Breathing 303

PAGE
Corn Cure 239
Coarse Pores 94
Cosmetic Defects of Mouth..... 229
Cosmetics, Harmful 32
Convenient Bath Apparatus..... 119
Cataphoresis 193
Common Diseases of the Scalp..... 273
Cost of Recharging Battery..... 148
Creme, Almonda 26
Cremes Afford Protection..... 20
Cremes Are Necessary..... 20
Creme Celeste 26
Creme, Cucumber 29
Cremes Do Not Cause Growth of Hair..... 22
Creme, Delight of Harem..... 27
Creme for Eruptions..... 29
Creme, Traveler's Comfort..... 109
Creme, Strawberry 28
Cucumber Creme 29
Cup, Sterilized 47
Cure of Blackheads, Pimples, etc..... 74
Cure of Corns 242
Current, Electric, Direction of..... 139
Current, Electric, How Produced 139
Current, Galvanic, How to Detect..... 154
Customs of Ancients in Regard to Ointments..... 21

Dandruff, Removal of..... 266
Dandruff, Simple Shampoo for..... 270
Dandruff, Tonic for..... 270
Dandruff or Scurf, Treatment of..... 264
Dandruff, Varieties of..... 265
Danger of Producing Scars in Removing Hair..... 161
Dedication 2
Defects, Cosmetic of Mouth..... 229
Delight of Harem, Creme..... 27
Depilatory Forceps 166
Depilatory, for Use on Arms..... 219
Deep Lines on Neck..... 60
Deep Massage for Pimples..... 69
Dentifrice, Powdered 232
Dentifrice, Liquid 232
Development, Physiological 299
Diet Advised for Oily Skins..... 94
Diet and Directions for Home Work on Blackheads..... 76
Diet List for Increasing Flesh..... 296

PAGE
Diet List for Reducing Flesh..... 290
Difficulty in Massaging Mouth..... 60
Direction of Electric Current..... 139
Directions for Home Work on Blackheads..... 74
Discretion Advisable in Caring for Skin..... 18
Disc, Needle, for Removing Naevi..... 185
Discolorations of Skin..... 189
Disguise for Red Hands..... 211
Dry and Flabby Skins..... 92
Dry Cell Batteries..... 11
Dry Cell Combined Battery..... 147
Dry Cell, McIntosh Battery..... 186
Dusting Powder for Moist Hands..... 208
Dye, Instantaneous Hair 293
Dyeing the Hair..... 280
Dyes, Vegetable and Organic..... 281

Ether 138
Effect of Advancing Years on Hair Growth..... 22
Egg Shampoo 251
Electricity, as an After-Treatment..... 63
Electric Current, How Produced 139
Electric Disturbance 138
Electric Battery, Ideal 152
Electric Battery, Simplest Form..... 139
Electric Bath 118
Electric Brush for Treating Scalp..... 261
Electric Current, Direction of..... 139
Electricity, Use of..... 137
Electrolysis, Outfit for..... 186
Electrolysis for Removing Hair..... 165
Electrolysis for Removing Moles 179
Emphasis on Gentle Treatment..... 35
Enlarging the Breasts 226
Erasing the Long Lines..... 43
Exercise for Busy Women..... 303
Exercises to be Practiced..... 304
Experiment in Producing Electricity..... 138
Experienced Worker Has Knowledge..... 21
External Applications Necessary..... 17
Electricity in Massage..... 200

Face, Prepared for Massage..... 41
Failure to Obtain Current from Battery..... 156
Faradic Bath 119
Faradic Battery, Section of..... 155

PAGE
Faradic Massage 196
Feet Bandaged, for Inflammation..... 238
Feet, Care of..... 236
Feet, Massage of..... 237
Feet, Perspiration of 244
File, Use of 205
Finding Hair Follicle..... 167
First Sign of Approaching Age..... 16
Flabby Skins 92
Fluid, for Battery 153
Forceps, Depilatory 166
For Painful Joints..... 239
Foot Tonic 238
Freckles, Tan and Sunburn..... 104
Fresh Air 303
Full Breathing 300

Galvanic Battery, Section of..... 153
Galvanic Current, Use of..... 138
Galvanic Current, How to Detect..... 138
Galvanic Current, Use for Bleaching..... 138
Galvanic Current, Used for Removing Superfluous Hair..... 138
Galvanic Current for Removing Moles..... 142
Galvanic Current, Strength Used..... 144
Galvanic and Faradic Plate..... 152
Galvanic Plate 151
Gentle Treatment in Facial Work Emphasized..... 35
Green Soap, Tincture of 75
Growth of Hair as Years Advance..... 22
Growth of Hair not Caused by Cremes..... 22
Gums, Treatment of 230

Habit Lines 32
Hair Brush Electrode 261
Hair, Care of the 245
Hair Clipping 263
Hair Dye 283
Hair, How to Dye and Bleach..... 280
Hair and Scalp, Treatment of..... 255
Hair, Vermin in..... 253
Hands, Care of the 203
Harmful Cosmetics 32
Hard Rubber Needle Holder..... 164
Head Band and Magnifying Glass..... 167
Henna Paste 282
Healthy Hue of Skin..... 16
Heart, Resting the 312

PAGE

Hints on Bathing 116
Hips, How to Reduce 311
Hollow Spaces on Neck 221
Home Work in Cure of Blackheads 75
How Electric Current May be Produced 139
How to Become Plump 294
How to Cure Blackheads 78
How to Dye and Bleach the Hair 280
How to Furnish the Treatment Rooms 129
How to Grow Thin 288
How to Improve the Arms 218
How to Improve the Neck and Bust 218
How to Improve the Shoulders 218
How to Massage 50
How to Proceed in Blackhead Work 64
How to Prepare the Face for Massage 44
How to Remove Blackheads 67
How to Remove Discolorations 189
How to Remove Moles 176
How to Remove Superfluous Hair 165
How to Select a Battery 146
How to Sterilize 123
How to Tell a Good Creme 21
How to Use the Baths 77
How to Use the Water Massage 40
Hypodermic Syringe, How to Use 70

Ideal Battery 152
Ill Health and Wrinkles 33
Illustrations, List of 14
Important Features of Outfit for Electrolysis 186
Importance of Using Zinc Ointment 175
Improvement Certain in Facial Treatments 63
Incrustations on Teeth 231
Inflammation of Joint 241
Ingrown Nails 242
Irritation Hastens Flaking of Skin 16
Instantaneous Hair Dye 285
Instruments, Sterilizing of 123
Inflammation, Removed by Bandaging Feet 238
Introduction 3
Irrigating Stand 133

Jelly, Rose 206
Jelly, Violet 98
Joint, Massage of 240

PAGE
Kneading Motion of the Chin..... 57
Knowledge, Valuable, of Experienced Worker..... 21

Lanugo, or Wool Hair..... 22
Lines of Age..... 34
Lines About the Eyes..... 46
Lines Upon the Face..... 50
Lines, Caused by Weak Eyes..... 34
List, Diet, for Increasing Flesh..... 296
List, Diet, for Reducing Flesh..... 290
Lines on Forehead..... 56
Liquid Bath 102
Liver Patches 82
Liquid Powder 114
Lotion for Rough Skin..... 220

Magnifying Glass..... 166
Magnifying Glass on Head Band..... 167
Mallet Treatment 60
Manicure Outfit Necessary..... 212
Manner of Making Powder..... 111
Manner of Measuring the Current..... 144
Manner of Controlling the Current..... 145
Manner of Shampooing 250
Manner of Treating Milia..... 79
Manufacture of Creams..... 24
Massage 39
Massage of the Chin..... 59
Massage of the Eyelid..... 53
Massage of Feet..... 237
Massage of Forehead..... 51
Massage of Joint..... 240
Massage of Nose 58
Massage of Neck..... 55
Massage Preserves Youth..... 39
Massage Roller 201
Massage Roller, Use of..... 201
Massage, Rotary Motion..... 49
Massage of Scalp..... 262
Massage with Use of Faradic Current..... 191
Massage, Water 40
Mask for Stippled Skins..... 94
Masseuse Obtains Results..... 78
McIntosh Dry Cell Battery..... 147
Mechanical Appliances, Injurious to Skin..... 33
Medici Powder 114
Milia 80

PAGE

Naevi, Treatment of 176
Naevi or Wine Marks..... 179
Nail Powder 216
Nails, Ingrown 242
Natural Oil of Skin..... 15
Neck and Bust, How to Improve..... 218
Necessity for Ventilation of Hair..... 255
Necessary Utensils in Making Creams..... 26
Needle, Best to Use in Electrolysis..... 170
Needle, Bulbous Pointed for Electrolysis..... 171
Needle Entering Hair Follicle..... 171
Needle Disc for Removing Naevi..... 185
Needle, Selection of 170
Negative Current, Why Used..... 169
Neglect of Scalp 246
Nose, How Massaged 59
Normal Skin 15
Nutrition of Flesh Improved..... 65

Obstinate Freckles 106
Oily Skins 94
Ointments, as Used by Ancient Nations..... 21
Ointments, Bland, for Dandruff..... 270
Ointment for Vermin in the Hair..... 253
Ointment, Zinc 175
Orange Wood Stick, Use of..... 209
Outfit, Important Feature of Electrolysis..... 185
Oxygen, a Necessity..... 302

Patrician Hand 203
Pastilles for Breath..... 235
Paste for Neck and Shoulders..... 224
Paste, Strawberry 28
Painful Sunburn 107
Perfect Development, When Attained..... 42
Perspiration of Feet..... 244
Perfect Teeth 231
Peroxide of Hydrogen for Muddy Skins..... 96
Physiological Development 298
Pigment Cells 16
Pimples 67
Powerful Bleaches Cause Cauterization..... 16
Powder, Bathing 112
Powder for Dusting into Shoes..... 244
Positive Pole, How Used..... 167
Powerful Remedies for Treating Moth Patch..... 84

PAGE
Removal of Blackheads 191
Removal of Moles 172
Removal of Superfluous Hair 165
Resting the Heart 312
Results Obtained by Masseuse 78
Roller 201
Rotary Motion, On and About Chin 60
Rose Jelly 206

Sallow and Muddy Skin 96
Saving the Hands 207
Scalp, Bland Ointment for 270
Scalp Cleanser 268
Scales Cast off Constantly 16
Scaly, Dry and Flabby Skins 100
Scalp and Hair, Treatment of 255
Scalp Massage 262
Scars, Danger of Producing 161
Scars Left by Pimples Improperly Treated 71
Scurf or Dandruff, Treatment of 264
Section of Faradic Battery 155
Section of Galvanic Battery 153
Selection of Needle 170
Shampoo, Bran 250
Shampoo Chair and Board 131
Shampoo Mixture 251
Shoulders, How to Improve 218
Simplest Form of Galvanic Cell 139
Simple Shampoo for Dandruff 270
Skin, Blanching the 188
Skin, Bleaching the 190
Skin, Discolorations of 188
Skin Food 30
Skin Possessed of Natural Oil 15
Smooth Skin after Successful Work 72
Soap 120
Soothing Ointment for Mouth 230
Solution for Receding Gums 231
Stick Polish, Use of 211
Stimulating the Skin by Faradic Current 192
Stimulating Tonic 257
Stippled and Sallow Skins 94
Sterilizing Instruments 123
Sterilization of Massage Cup 44
Strawberry Creme 28
Strawberry Paste 28

PAGE
Street Current with Rheostat 145
Strengthening the Muscles 311
Subject to Sterilizing Instruments 123
Substitutes for Oils 23
Success of Treatments, Properly Given 19
Sulphur Bath 118
Sunburn 107
Systematic Work Valuable 41

Table of Contents 9
Table of Correct Body Weights 292
Tan and Sunburn 107
Teeth 228
Teeth, Perfect 234
The Ideal Masseuse 39
The Mouth and Teeth 228
Thickness of Skin 15
Tincture of Green Soap 75
Tinting Powder 113
Tonic for Dandruff 270
Tonic for Oily Scalp 271
Tonic for Stimulating Hair 260
Toothache Remedy 235
Traveler's Comfort Creme 110
Traveling Made Comfortable by Cremes 20
Treatment of Acne 191
Treatment of Dandruff or Scurf 264
Treatment of Pimples 71
Treatment of Moles, Warts and Naevi 176
Treatments, Properly Given, Successful 19
Treatment of Scalp and Hair 255
Treatment Rooms, How to Furnish 129
Treatment of Vascular Naevi 182
Trichophytosis 277

Use of Astringent 61
Use of Buffer 215
Use of Cremes, When Traveling 20
Use of Electricity 138
Use of the Faradic Current 191
Use of the Faradone 201
Use of Files 205
Use of Soap 116
Use of Galvanic Current 187
Use of the Massage Roller 193
Use of Orangewood Stick 209

PAGE
Use of Parchment Strips 38
Use of Powder 110
Use of Stick Polish 213
Use of Water Massage 40
Use of the Vibratile 62
Using the Comedone Extractor 68
Using the Hair Brush Electrode..... 256
Using Hypodermic Syringe 70
Utensils Necessary in Making Cremes..... 26

Value of Systematic Work..... 41
Value of Taking Rest 295
Varieties of Blackheads 65
Vegetable and Organic Dyes 281
Vegetable Powder 112
Vertical Lines..... 58
Vibratory Machines 134
Violet Jelly 117
Vermin in Hair 253

Warts, Treatment of 176
Wash for Mouth 231
Water Massage 40
Wet Cell Batteries 152
Weak Eyes Cause Lines 34
Weather Worn Appearance Caused by Tan..... 106
What Causes Wrinkles 32
Whitening Paste for the Hands..... 210
Why Cremes are Necessary..... 20
Why We Massage 39
Withered Skins 98
Wool Hair, or Lanugo 22
Women, Busy, May Exercise 303
Work of Electrolysis Remunerative..... 153
Work, How Long to, in Electrolysis..... 157
Work of Massaging the Face 57
Work on Warty Growths 178
Wrinkles, and What Causes Them..... 32
Wrinkle Treatment, Certainty of Improvement in..... 63
Wrist Electrode 201

Youthful Appearance of Ancient Greeks..... 21
Youth Preserved by Massage..... 39

Zinc Ointment 175
Zinc Powder 152



Pupils Under Instruction.

EMILY LLOYD
PRESIDENT

I. R. OUTERBRIDGE
SUPERVISOR OF INSTRUCTION

Marinello Training School

THE MARINELLO SYSTEM

Embraces

Scientific Massage as indicated by the position of the blood vessels and nerves. Use of Batteries and Electric Appliances of all kinds



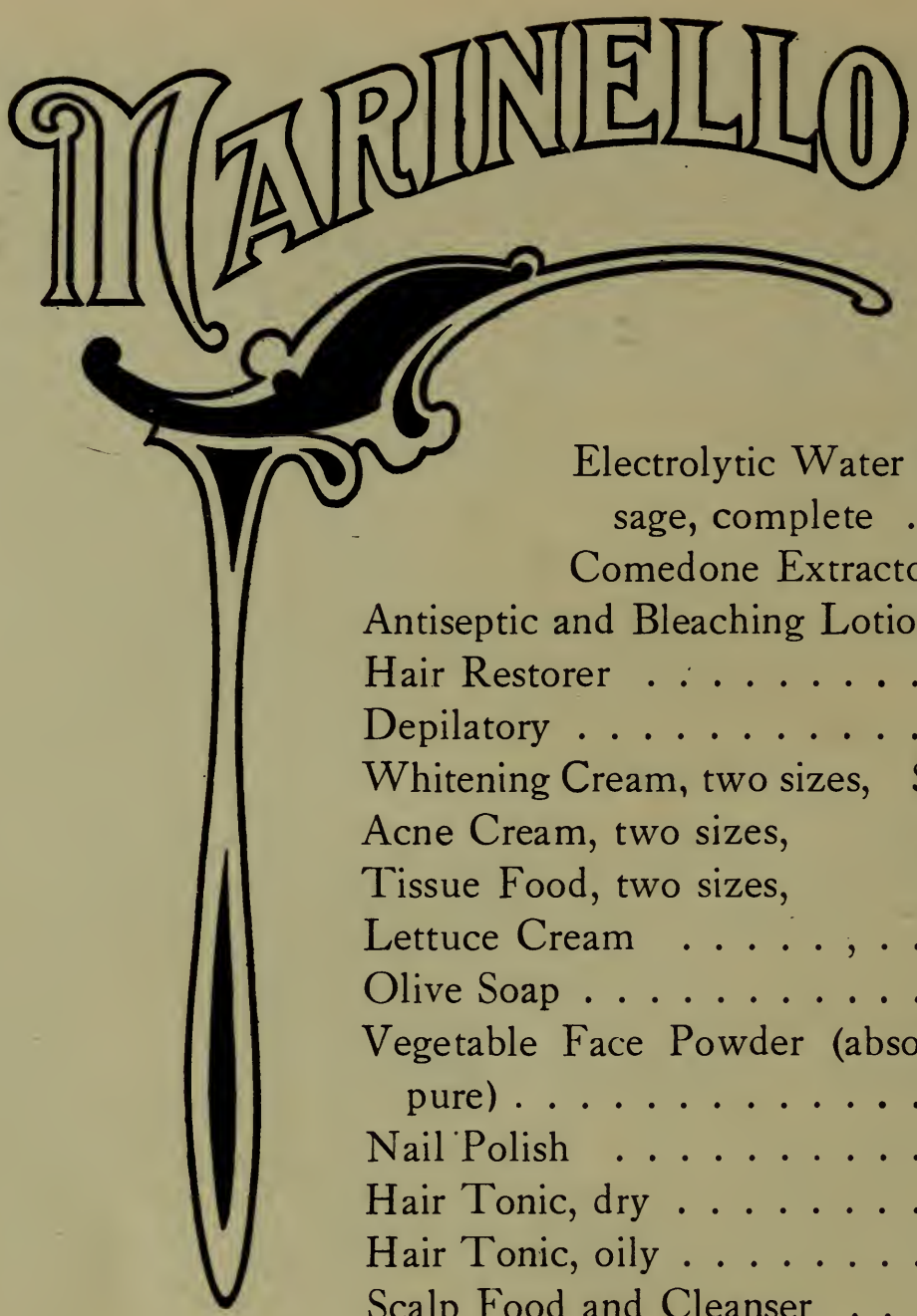
Removal of wrinkles; reducing large pores; making flabby skin firm; bleaching the skin free from moth patch, freckles, and any discoloration by instantaneous method, cataphoresis and ecorchement system; cure of blackheads, pimples and milia; cure of excessive oiliness; proper daily care of the skin; care and management of batteries; permanent removal of superfluous hair; removing warts, moles, naevi and other defects without a scar; treatment of scalp; nature of hair; cure of dandruff; cure for falling hair; massage of the scalp; use of sanitary and follicle brushes with electricity; use of radio bell for both face and scalp; dyeing the hair; tinting the hair; bleaching the hair; marcel waving; shampooing, both dry and wet; dressing the hair; manicuring; treatment and care of brittle nails; massaging the hands; massaging the neck and bust; massage of the body as approved by scientists; chiropody and massage of the feet; manner of establishing a successful business.

Catalogue and full information on application.

Post Graduate Work a Specialty

Address

EMILY LLOYD, Western Methodist Book Concern Building Chicago, Ill.



Electrolytic Water Massage, complete		$6 00
Comedone Extractor		75
Antiseptic and Bleaching Lotion		1 00
Hair Restorer		1 00
Depilatory		50
Whitening Cream, two sizes,	$1 00	50
Acne Cream, two sizes,	1 00	50
Tissue Food, two sizes,	1 00	50
Lettuce Cream		75
Olive Soap		50
Vegetable Face Powder (absolutely pure)		50
Nail Polish		50
Hair Tonic, dry		50
Hair Tonic, oily		50
Scalp Food and Cleanser		50
Geranium Jelly		25

These preparations are guaranteed under the
Pure Food and Drug Act,
Serial No. 4200

Manufactured by Marinello Company
57 Washington Street Chicago

ELECTROLYSIS

ELECTRIC MASSAGE

McINTOSH 14 DRY CELL COMBINED BATTERY

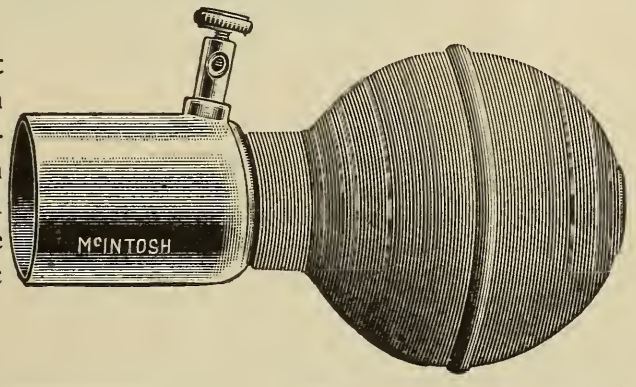


The best portable battery on the market for work of ELECTROLYSIS and FACIAL MASSAGE. Contains twelve cells in the Galvanic portion, giving ample current for removal of hair, moles, etc. Affords a smooth, even current for Facial Massage. Finely finished and covered with best leather.

We are Headquarters for Dermatological Appliances

NEW VACUUM CUP MASSAGE ELECTRODE

A popular and efficient instrument for vacuum massage; especially constructed to give a vacuum of proper degree for facial treatment. May be used with any faradic massage battery.

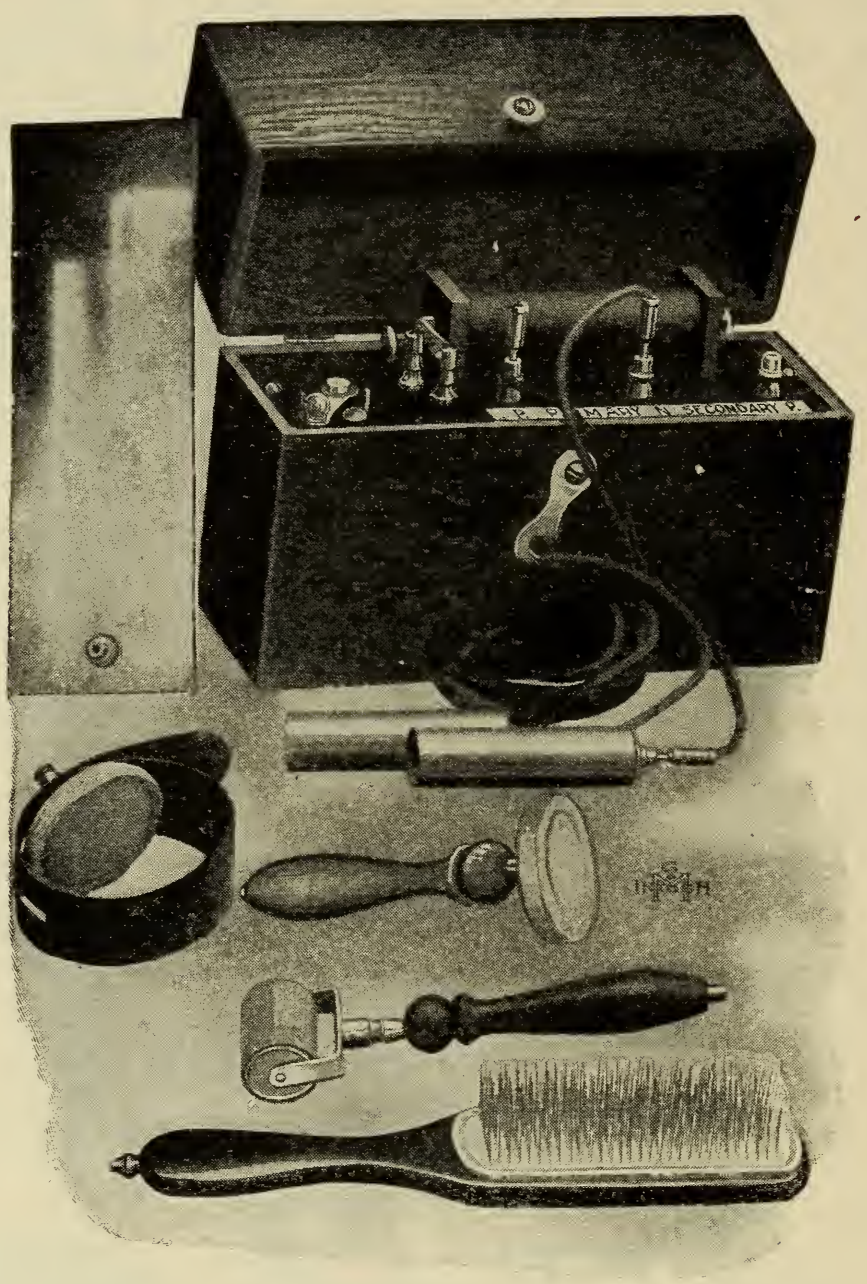


Send for literature and prices

McINTOSH BATTERY & OPTICAL CO.

227-229 Washington Street CHICAGO

ELECTRIC MASSAGE BATTERY



Prepare the face with **Lettuce Cream.** Allow the patient to hold in his hand the metal Electrode attached to the battery. Attach the No. 1 handle and spongio disc to the other pole of the battery, and apply it to the forehead and face according to the tolerance of the patient. The Spongio Disc must be thoroughly wet, as the electricity passes through the moisture, and cannot pass through dry spongio. This application is especially beneficial in treatment of Headache, Neuralgia, and Nervous Fatigue. The **Massage Roller** is used in the same manner as the Spongio Disc. Its especial merit is that when the chamois is well moistened a stronger current may be applied regularly to face and neck. *Send for complete catalogue.*

McINTOSH BATTERY & OPTICAL CO.

227-229 Washington Street CHICAGO, ILL.

NOV 29 1907

LIBRARY OF CONGRESS
00026161708